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ABSTRACTS OF THE 48TH IHF WORLD HOSPITAL CONGRESS

GENEVA (SWITZERLAND), NOVEMBER 10–13, 2025

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LIGHTNING TALKS

TRACK 1: LEADERSHIP IMPERATIVES: ALIGNING INNOVATION, GOVERNANCE, AND PARTNERSHIPS FOR SYSTEM PERFORMANCE

L-1001

Connected and Seamless Care: Unifying Dubai Health Authority & Mediclinic for Dialysis Access through System Integration

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Introduction

Dubai Health Authority (DHA) and Mediclinic Middle East formed a strategic partnership in April 2021 to enhance dialysis accessibility and improve clinical outcomes for Emiratis. This collaboration ensures world-class, patient-centered care for individuals with kidney failure. Mediclinic now operates DHA's Al Barsha Dialysis Centre and Al Twar Dialysis Centre (launched in May 2021), expanding access to expert-led dialysis services. With a focus on advanced treatment protocols and international standards, this partnership strengthens Dubai's healthcare system by integrating public and private sector expertise. Beyond dialysis treatment, these facilities provide comprehensive nephrology care and preventive services, alongside additional specialties such as urology, psychology, cardiology, endocrinology, and dietetics. This multidisciplinary approach ensures holistic patient management, improving long-term health outcomes and strengthening Dubai's healthcare ecosystem. This strategic relationship between DHA and Mediclinic reflects a shared vision of accessibility, clinical excellence, and innovation, setting a strong foundation for future advancements in patient care across UAE.

Aim/Objective(s)**Enhance Accessibility to Dialysis Care**

- Ensure seamless access to high-quality dialysis services for Emiratis across Dubai and other emirates.
- Expand dialysis facilities to meet growing patient needs and reduce wait times.

Leverage Collaboration for Expertise

- Integrate DHA's healthcare vision with Mediclinic's specialized expertise in nephrology and dialysis care.
- Foster knowledge exchange and innovation through public-private collaboration.

Achieve Superior Clinical Outcomes/KPIs

- Implement evidence-based treatment protocols to enhance patient outcomes.
 - Provide comprehensive, multidisciplinary care including nephrology, urology, psychology, cardiology and endocrinology.
- Maintain a 95% patient adherence rate to prescribed dialysis schedules.
 - Reduce dialysis-related complications by 15% annually.

Promote Preventive & Holistic Kidney Care

- Offer preventive nephrology services to reduce the progression of kidney disease.
- Educate patients on lifestyle modifications and dietary management for better long-term health.

Strengthen Dubai's Healthcare Ecosystem

- Align all dialysis services with internationally recognized standards such as JCI accreditation.
- Set a benchmark for integrated, patient-centered care in the region.

Methods**Operational Framework and Performance Monitoring of the DHA & Mediclinic Dialysis Partnership**

DHA (now called Dubai Health) provided the facility, infrastructure, and medical equipment, while Mediclinic was contracted to deliver dialysis services under a structured agreement. A contract outlined service responsibilities and key performance indicators (KPIs) to monitor effectiveness. Mediclinic established dialysis policies covering patient assessments, monitoring, medication administration, lab workups, and water quality – all vetted and approved by DHA. To ensure continuity of care, Mediclinic's healthcare professionals were granted access to DHA's HIS system (SALAMA) and received specialized training. DHA patients were referred to dialysis centers, assigned a unique MRN, and placed on individualized treatment plans (thrice weekly). Every quarter, Mediclinic submits KPI reports to DHA, followed by performance review meetings to identify improvement opportunities. Additionally, DHA conducts random inspections to ensure compliance with highest standards of care, reinforcing the partnership's commitment to excellence in dialysis treatment.

Results**Operational Performance**

- The growth from 4,806 dialysis sessions in FY 21-22 to 30,000 sessions in FY 23-24 highlights substantial expansion.
- Total sessions performed since inception: 83,685.
- Capacity utilization: Al Barsha: 92%; Al Tawar: 96% (for two shifts per day)
- Current patient count: 230 patients
- January 2024 treatments: 2,720 sessions

Quality and Clinical Outcomes (Compared to DHA's Targets)

- Avoiding unnecessary transfusions: MBDC: 0.22% | MTDC: 0.38% (Target: 10%)
- Dialysis Adequacy: MBDC: 91.6% | MTDC: 85% (Target: 70%)
- Central Line Bloodstream Infections: 0.3% at both centers (Target: 4%)
- Nutritional Status: MBDC: 92% | MTDC: 87% (Target: 80%)
- Transplant Assessment: MBDC: 98% | MTDC: 99.6% (Target: 80%)
- Unplanned Hospital Admissions: MBDC: 4.8% | MTDC: 1.51% (Target: 15%)

Patient Experience

- Google Reviews: MBDC: 4.7 stars, MTDC: 4.6 stars
- Net Promoter Score (NPS): 83 (MBDC), 80 (MTDC)
- 48 patients enrolled in the Mediclinic Kidney Transplant Program

The above performance provides a holistic view of the clinical care delivered to patients, leveraging Mediclinic's expertise to achieve exceptional clinical outcomes and patient satisfaction.

By consistently exceeding DHA's targets in key quality indicators, the dialysis centers are not only meeting but surpassing industry standards. This progress aligns with the broader vision of establishing successful integrated health systems in the UAE.

Conclusion

The strategic partnership between Dubai Health Authority (DHA) and Mediclinic Middle East has significantly enhanced dialysis accessibility and clinical outcomes for Emiratis. By integrating public sector infrastructure with private sector expertise, the collaboration has enabled seamless, high-quality dialysis services while expanding access to multidisciplinary care, including urology, psychology, family medicine, and dietetics. The operational performance, with a six-fold increase in dialysis sessions since 2021 and high-capacity utilization, underscores the efficiency and growing demand for these services. Clinically, the centers have exceeded DHA's targets in key quality indicators, demonstrating excellence in dialysis adequacy, infection control, nutritional status, and transplant assessments. These achievements contribute to improved patient outcomes, reducing unplanned hospital admissions and dialysis-related complications, thus alleviating the burden on the wider healthcare system. Beyond direct patient care, this partnership sets a benchmark for policy innovation, clinical best practices, and data-driven healthcare improvements. The quarterly performance monitoring, evidence-based protocols, and integration with DHA's Electronic Medical Records exemplify a commitment to continuous improvement. Furthermore, by offering preventive nephrology services and lifestyle education, the centers contribute to early intervention strategies and long-term kidney disease management, aligning with Dubai's vision for an integrated, patient-centered healthcare system. Paving a way for many such collaborations.

Conflicts of interest related to this abstract: None

L-1002

Deploying hospital information system within large, complex health systems in Taiwan: key considerations for adoption and implementation

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Introduction

In Taiwan, the Veterans Affairs Council (VAC), in response to policies and the aging of the Hospital Information System (HIS) at branch hospitals, proposed three HIS integration solutions in 2015. This project is executed in two phases: the first phase, from 2016 to 2019, involves the implementation at four branch hospitals, while the second phase, from 2020 to 2022, expands to eight branch hospitals. The implementation period took only 8 months, setting the record for the shortest HIS implementation timeline in Taiwan. After the implementation, expenditures were reduced by 25.5%, maintenance costs decreased by 34%, medical quality and patient safety were improved, errors were reduced, and the system quickly responded to government policies and pandemic-related demands. All project performance indicators were successfully achieved. This article will explore the key considerations adopted and implemented for the successful deployment of a Hospital Information System in large, complex healthcare systems.

Aim/Objective(s)

This article analyzes the product selection methods for implementing the HIS in the 12 branch hospitals of the Veterans General Hospitals from two perspectives: product selection and feasibility analysis.

A. Product selection: The HIS system of Taichung Veterans General Hospital was selected as the best choice for implementation in the 12 branch hospitals of the Veterans General Hospitals due to its outstanding achievements and the use of the latest technology.

B. Feasibility analysis: Taichung Veterans General Hospital analyzed the feasibility of implementing a shared HIS across the 12 branch hospitals of the Veterans General Hospitals from various aspects, including organization, personnel, software integration, data integration, hardware integration, testing environment, and the establishment of standard operating procedures for implementation.

Methods

Executive sponsors: The most important aspect of the implementation plan is obtaining full support from the higher authorities, including the Veterans Affairs Council (VAC) and the 12 branch hospitals of the Veterans General Hospitals. Internal champion: Taichung Veterans General Hospital established an execution team for the implementation of the Taichung Veterans General Hospital Medical Information System across the 12 branch hospitals. The team integrates cross-departmental and cross-team personnel, processes, and information technology. The 12 branch hospitals established a task force for the deployment of the Taichung Veterans General Hospital Medical Information System. Planned Schedule: From October 2016 to May 2022, the schedule is divided into the following two phases.

- Resources: Human Resources and hardware and software equipment expenses.
- Data assets: Coding Integration, Information System Integration and Data Integration.

Results

Direct ROI: After calculation, the actual savings in expenditure amounted to 25.5%. The maintenance cost for each branch hospital decreased by 34% annually. The actual expenditure can be fully amortized over approximately 8 years. Indirect ROI: By implementing the Taichung Veterans General Hospital's medical center-level HIS system in the 12 branch hospitals, there was a significant improvement in healthcare quality and patient safety, reducing the error rate. The system enabled quick adjustments in response to government policies, healthcare policies, and the National Health Insurance policies. Clinical value: Providing a medical center-level information system to the branch hospitals: Previously, the systems used by the branch hospitals had limited functionality. As a result, medical center doctors often complained about the inadequacy of the branch hospitals' information systems when providing support. After the implementation of the Taichung Veterans General Hospital system, a medical center-level information system was introduced, designed with a patient-centered approach. All patient information can be centrally displayed, enhancing the operational efficiency of clinical staff. Examples: Structured medical records, Nursing system and Enhancing medication checks.

Conclusion

The implementation period was completed in just 8 months, setting a record for the shortest time to deploy a hospital information system (HIS) in Taiwan. After implementation, the project achieved significant outcomes, including a 25.5% reduction in expenditures, a 34% decrease in maintenance costs, improved medical quality, enhanced patient safety, reduced

errors, and a swift response to government policies and pandemic-related needs. All project performance indicators were met. By integrating Taichung Veterans General Hospital's HIS system into 12 branch hospitals, the process involved adjusting the system's functionality at the main hospital, allowing the branches to directly use it. In the future, this system will be able to quickly adapt to changes in healthcare insurance regulations, preferential medical policies from the Executive Yuan, or national health policies.

There are four key factors for the successful implementation of this project, as described below:

- A. High Consensus Among Branches
- B. Lower Investment Costs
- C. Parallel Testing Before System Go-Live
- D. Good Adaptability

After the successful implementation, all hospitals using the Taichung Veterans General Hospital HIS system now rank second in Taiwan in terms of total medical service volume.

Conflicts of interest related to this abstract: None

L-1003

Human-Centered Design and Horizon Scanning in Healthcare – A promising synergy or an unrealistic goal?

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Introduction

The increasing demands of patient care, the integration of medical and technological advancements, and changing societal values require healthcare professionals who are not only committed to continuous learning but also innovative and adaptable. This highlights the critical importance of the human factor and emphasizes the need for Human-Centered-Design (HCD) in health organizations. HCD integrates users' experiences, knowledge, and ideas to foster innovation. It, therefore, plays an essential role in developing the capabilities needed to meet future challenges. However, current literature on HCD in healthcare predominantly focuses on patient-centered care, but needs to be enriched with an employee-centered perspective.

Aim/Objective(s)

We present insights from a multi-method study of a HCD approach implemented as a Horizon Scanning method at Augsburg University Hospital. We aim to highlight the impact of empowering employees by strengthening their competencies through international mobility, focusing on both their professional and personal development within an organizational context. In doing so, we seek to propose an approach that can contribute to transforming healthcare.

Methods

Between 2022 and 2023, 14 employees from Augsburg visited hospitals in Stockholm as part of the Iseemobility project, an initiative by Augsburg University Hospital, Karolinska Institute and Region Stockholm. Participants addressed research questions and presented their professional findings in a 'sharing-and-spreading' format. We conducted a document analysis of these presentations to identify key phenomena, using Grounded-Theory Methodology (GMT). To initiate an in-depth discussion, we organized an interprofessional focus group. Additionally, we explored the personal implications and the impact

of participants' intrinsic motivation through an interview study based on Self-Determination Theory (SDT). Both datasets were analyzed using Mayring's (2016) content analysis approach.

Results

Participants identified significant differences in clinical practice between Germany and Sweden. Structural factors, particularly role clarity, were identified to influence the core phenomenon of Sweden's exemplary interprofessional collaboration, which has a positive impact on employees. Building on these insights, a scaling-up dissemination project focused on interprofessional learning and collaboration was developed. Furthermore, the interviews provide ample evidence of the positive impact on participants' personal development. Participants reported significant growth in their professional skills and an increased drive to innovate. For some nurses, participating in the project served as a career boost.

Conclusion

The results indicate that international perspectives, empowerment, and competency enhancement foster both personal and organizational development. This suggests that employee-centered development programs implemented as a Horizon Scanning method can be a sustainable strategy to address various challenges and actively shape the future of healthcare.

Conflicts of interest related to this abstract: None

L-1004

Public-Private Partnerships in Healthcare Service Delivery – Scope, Governance and Performance: the patient perspective is somehow missing.

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Introduction

With growing pressure on public health budgets, PPPs are increasingly being viewed as a solution to fill resource gaps, leverage private sector expertise, and foster innovation. After having recognized that in the extant research the most frequent purposes of a PPP in healthcare are infrastructure, capacity building, policy, and economic development, it is deemed appropriate to further investigate the delivery of health services as the main purpose of the partnership. Furthermore, literature has shown that there has not been a particular focus on the value generated by partnerships, not only in terms of organizational benefits but also in terms of patient outcomes. Finally, even if built on a common value-creation rationale, public-private ties necessitate adapting different governance structures, depending on the underlying actors' interests and objectives. Therefore, it raises the question of how PPPs in healthcare that deliver services are governed according to the objectives of the parties involved.

Aim/Objective(s)

On the basis of the literature review and having identified some aspects deemed particularly interesting and relevant that would merit further investigation, the following research questions were formulated:

- What is the purpose of healthcare service delivery PPPs?
- Do partners formalize outcome objectives when entering into a healthcare service delivery PPP?
- Do partners formalize patients-related outcome objectives when entering into a healthcare service delivery PPP?
- How are healthcare service delivery PPPs governed?
- How do healthcare service delivery PPPs perform?
- Are the objectives regularly monitored during the partnership?
- Are the objectives reached?

Methods

An exploratory review of the literature from the past 25 years was conducted to analyze purposes, governance and outcomes of PPPs in healthcare. Three Swiss PPP case studies were selected for their diverse contexts and five-year operational history. They included university hospitals, regional hospitals, and private clinics, encompassing specialized clinical and support services. Semi-structured interviews were conducted with top management and partnership representatives. To assess the PPP's outcome in terms of value perceived by the final users, an in house survey was created to be administered to patients' afferent PPP structures. Data collected from surveys were analyzed using IBM SPSS Statistics 29. Descriptive statistical techniques and visual tools highlighted patterns and outcomes. The survey was crucial to assess the value creation from the patient's perspective, but also to triangulate the results with the perception of the other stakeholders, with the objectives and with the metrics used to monitor the partnership.

Results

The analyzed PPPs in healthcare share a common goal of ensuring quality care and proximity, emphasizing cooperation over competition. However, patient benefits remain informal and poorly communicated. In Case 1, the partnership operates through agreements without creating a new entity, while in Cases 2 and 3, joint-stock companies with private majority shareholding were established. Governance varies across cases but aims to balance stakeholder representation. None of the partnerships have autonomous quality management. Financial considerations are deprioritized in Cases 1 and 2, focusing instead on cost redistribution, while Case 3 explicitly addresses profit-sharing. Success factors include alignment between public and private leadership, personal relationships, and strong political backing, which provides stability and legitimacy. High stakes in two cases drive significant resource commitment from both parties. Collaboration between clinical staff from different organizations is a significant barrier due to cultural and operational differences. KPIs measure success, focusing on operational and financial metrics. Certification is emphasized as an indicator but may neglect qualitative patient care aspects. Patient satisfaction surveys vary in scope, with Case 1 being PPP-specific, while others lack direct patient engagement.

Overall, while partnerships meet operational objectives, patient-centered strategies and outcome formalization remain underdeveloped, echoing broader findings in the literature

Conclusion

The analysis of PPPs in healthcare reveals that their main objectives focus on organizational efficiency, access, and sustainability, with limited emphasis on patient-centered goals. While implicit patient benefits are acknowledged, they are often secondary outcomes tied to operational targets and certifications, rarely formalized within agreements. This lack of focus on patient outcomes highlights a gap in performance metrics, which prioritize operational aspects over measurable patient-centric indicators. Governance structures of PPPs vary, reflecting their specific objectives and underscoring the absence of a universal framework. Successful collaborations require alignment between public and private partners, which is often challenged by differences in organizational culture. Political support emerges as a critical factor for effective partnerships, as noted in prior research. Despite achieving operational goals, the study emphasizes the need to explicitly integrate patient-focused objectives and robust performance indicators to enhance trust, satisfaction, and sustainability. This research contributes to the existing literature by adopting a holistic approach that connects scope, governance, and outcomes, highlighting their interdependence.

A key finding is the marginalization of patients in the formalization of goals and value assessment, limiting the partnerships' impact and legitimacy. Addressing this gap is essential for improving healthcare PPPs and ensuring their long-term success.

Conflicts of interest related to this abstract: None

L-1005

Rural Ontario Medical Program Data in Developing Placement Profiles for Future Healthcare Workforce

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Introduction

Meaningful data can be used to determine needs, guide programs and policies, identify healthcare training gaps, and help organizations pivot rapidly. This initiative will demonstrate how the Rural Ontario Medical Program converted data into actionable insights to measure and meet growing clinical education service demands, improve access to medical and health professional education, bridge silos and build partnerships between academic institutions, primary care/hospital providers, and transform outcomes with community relationships.

Aim/Objective(s)

In this session, you'll learn how the Rural Ontario Medical Program

- Produced key statistics to help the organization focus on crucial gaps and program needs
- Achieved integration with sites to improve navigation and access to clinical training
- Created new partnerships and integration points to break down access barriers and improve navigation to rural sites.

Methods

This study utilized secondary research to gather information on housing and transportation profiles from tableau Rural Housing data and profiles from independent communities. Qualitative data was collected through phone interviews with representatives from various communities in the province. Additionally quantitative data was obtained via Survey Monkey with over 15000 rotation evaluations to analyze learners experiences and rotation satisfaction.

Results

A comprehensive Dashboard for individual communities was developed to enable community leaders to identify barriers to community based clinical education. Aggregate learner and preceptor data enabled analysis of learner experience in each community as well as continuity of learners returning or remaining in community based training sites for practice with achievements as high as 93% retention rates. Housing and transportation data showcased opportunities for improvement and support needed for the continuous development of education and training as it leads to workforce retention.

Conclusion

Communities and hospitals in areas outside of the academic centres are challenged with recruitment and retention of healthcare professionals. Medical education and residency training experiences have been well documented to support rural recruitment and retention efforts. Community and clinical site development are essential for initiating or expanding rural clinical education. The establishment of the key contributions of communities and local governments in supporting rural health professional education requires the identification of what communities can do. Hospitals, clinics and preceptors remain focused on teaching and quality patient care and feedback provides opportunities or areas of improvement. Defining community "People" ; "Housing" and "Transportation" provides a key

starting point for clinical education and expansion to address critical gaps in health human resources in community healthcare provision.

Conflicts of interest related to this abstract: None

L-1006

The Catalan Healthcare Model: Governance and Professional Management for Outcome-Based Improvement

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Introduction

The Catalan healthcare model is a unique, internationally recognized system that integrates public governance with a diverse network of providers. It is built on principles of professional management, transparency, and continuous quality improvement. Unlike other models, Catalonia has developed a stable yet flexible healthcare ecosystem, allowing providers to operate under different ownership structures while maintaining alignment with public health policies and performance standards. One of the key pillars of this model is the Results Center, established in 2003 as a collective effort to enhance transparency and promote data-driven decision-making. It enables comparative performance analysis among healthcare providers, fostering benchmarking, best practice exchange, and policy refinement. To further evaluate the impact of this governance model, La Unió has conducted a comprehensive study. This research analyzes healthcare outcomes across different ownership models to determine whether governance and management strategies, rather than ownership type, drive better results.

Aim/Objective(s)

- Assess the relationship between governance models and healthcare outcomes.
- Demonstrate that effective management, not ownership type, is the key determinant of performance.
- Evaluate how management autonomy, professional capabilities, and strategic tools influence results.
- Provide evidence-based recommendations to enhance healthcare service delivery, policy-making, and system-wide efficiency.

Methods

The study applies a quantitative and comparative approach, using data-driven methodologies to analyze healthcare performance indicators across primary care and hospital services. The five-step methodological process includes:

1. Selection of key performance indicators (KPIs) focusing on efficiency, patient safety, quality, and accessibility.
2. Classification of healthcare organizations into categories based on ownership type (publicly owned vs. state-contracted hospitals).
3. Statistical analysis using quartile distribution to examine variations in results.
4. Outlier identification, detecting institutions that significantly deviate from average performance.
5. Comparison of mean values across different categories, applying a fixed-effects ANOVA model to control for external variables.

The data source for the study consists of indicators from the Results Center's latest reports (2022-2023).

Results

Healthcare outcomes are primarily determined by effective management, not by ownership structure. No significant differences exist in performance indicators between publicly owned hospitals and state-contracted hospitals. The Informe Central de Resultats confirms that, across most indicators, there are no statistically significant differences in patient satisfaction, 30-day readmission rates, or cost per unit of service between different ownership models.

- Within each ownership category, performance variations indicate that management autonomy, leadership strategies, and operational tools are the key differentiators. The ability to adapt decision-making to local needs, leverage data analytics, and implement flexible operational models is what truly drives performance.
- Biases and misconceptions regarding ownership-based performance need to be challenged, as outcome variability is more linked to governance quality than to legal status. The report highlights that prejudices about ownership affecting performance should be discarded, as results depend on how well a healthcare organization is managed rather than who owns it.
- Management tools such as data-driven decision-making, operational flexibility, and financial autonomy contribute to better performance. The report underscores the importance of equipping all healthcare entities – including public institutions – with the necessary tools for agile and effective management.

Conclusion

This study provides critical insights into the governance and management structures of the Catalan healthcare system, reinforcing the importance of transparency, benchmarking, and continuous performance evaluation. Key takeaways include:

- Diversity among healthcare providers adds value by encouraging innovation and competition, ultimately benefiting service quality and patient care.
- The Results Center plays a crucial role in promoting accountability, knowledge exchange, and performance-based decision-making.
- Ongoing improvements are necessary, including the integration of new quality indicators, productivity measures, Corporate Social Responsibility (CSR) criteria, environmental sustainability metrics, and patient-centered care outcomes.
- Policy-makers and healthcare leaders must continue strengthening governance structures to ensure that the Catalan model remains resilient, efficient, and adaptive to future challenges.

The findings from both the study and the Informe Central de Resultats confirm that strong governance, managerial autonomy, and the strategic use of data are the real drivers of healthcare success. Ownership structure is not a determinant of performance, and healthcare systems should prioritize management excellence over debates on ownership models. By investing in leadership, operational flexibility, and evidence-based decision-making, healthcare organizations – whether public or private – can achieve higher efficiency, better patient outcomes, and greater long-term sustainability.

Conflicts of interest related to this abstract: none

TRACK 1: LEADERSHIP IMPERATIVES: FUTURE-READY SYSTEMS THROUGH LEADERSHIP, LEARNING, AND ENGAGEMENT

L-1007

Building a SGH READY Workforce to Thrive in Our Digital Age

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Introduction

The pace of change arising from technological advancements has brought new opportunities in the way we deliver care. As we build and shape the future of healthcare, the uncharted territories also mean that the way we work will certainly change. While having the latest innovative technologies and infrastructure are important, the key success factor is ensuring that the workforce can adapt and thrive in digital transformations. In Singapore General Hospital (SGH), the Future Workforce Development (FWD) unit under the Department of Future Health System (FHS) identified the urgency to close the knowledge gap and build a digital culture to support its workforce's growth amidst the digital disruptions. This is closely in line with SGH CEO's leadership guidance in stewarding our workforce to effectively leverage emerging technologies in delivering a seamless phygital hospital experience for all of our stakeholders – patients, caregivers, employees.

Aim/Objective(s)

Staff's learning needs are currently reviewed annually and training would only be deployed in the next year. The time lag coupled with scattered learning information and resources pose challenges for staff to identify suitable resources to promptly address skills gaps. Moreover, due to various reasons such as operational challenges, staff may not have time to attend classroom trainings, leading to low training utilisation. These challenges present an opportunity to create an enabler to facilitate staff to identify their learning gaps and suitable just-in-time learning resources. FWD launched a movement, "SGH READY", to raise staff awareness and participation in equipping themselves with learning resources to grow and excel together as workforce of the future. Competencies covered include Digital Literacy, Innovation Methodology and Change Readiness. The Hands, Head and Heart (3Hs) Framework, which integrates awareness (Heart), cognitive knowledge (Head) and practical applications (Hands), is being referenced to design meaningful SGH READY initiatives.

Methods

With reference to Prosci ADKAR (Awareness-Desire-Knowledge-Ability-Reinforcement) Change Management Model, the SGH READY movement was first launched through activities to raise awareness. This included hosting fun activities at SGH READY's first Learning Fiesta (hospital's annual learning & development event) booth in November 2024, which garnered the presence of over 200 staff. Hospital-wide publicity efforts such as mass circulars, screensavers and lift posters were scheduled intently thereafter to increase staff's awareness. While ensuring that these awareness campaigns lead to meaningful output, the team had also set up a resource page to feature bite-sized learning materials related to the 3 competencies under SGH READY. All publicity efforts have been intentionally linked to direct staff to view the resources.

Results

The learning platform has been utilized by 920 unique staff and accessed 9,801 times within 4 months since its publication. This

increase is also an indication of the successful publicity efforts communicated to staff. The average time spent by staff on the learning platform has also increased significantly from 4 minutes 6 seconds at the start of its launch to 7 minutes 54 seconds currently, representing a 92.68% increase in staff's active engagement on this platform. This deeper engagement also serves as an indication that the contents curated are meaningful and relevant to staff's learning needs.

Conclusion

Moving beyond raising awareness, the FWD unit in SGH has organized focus group discussions (FGD) targeted at the various healthcare professional groups, involving both staff holding leadership positions and staff on the ground, to understand their learning needs. For example, the topics at the FGD sought to find out the various domains' digital transformation projects and potential future digital patient touchpoints and inquiring their current and future learning needs to be "SGH READY". The analysis from the discussions serves as a springboard for the FWD unit to establish connections with the key stakeholders to dive deeper into the complex needs of our healthcare system and myriad opportunities that could be derived from these engagements. Concurrently, the team has developed an early stage of a SGH READY AI Learning Specialist assistant, which leverages on existing AI-based assistant using Large Language Model technology, to partner staff in their learning needs analysis by assessing their current digital proficiency level vis-à-vis the expected digital proficiency level based on their job role in SGH. Based on the assessment, the assistant would then make appropriate recommendations for the staff, who could then access these learning materials via the learning platform mentioned earlier.

Conflicts of interest related to this abstract: None

L-1008

Building the Next Generation of Patient Care resources: Almora General Hospital's Nurse Training Program

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Introduction

The global healthcare industry faces an escalating nursing shortage, leading to increased workloads, burnout, and compromised patient care quality. This crisis underscores the urgent need for well-trained, competent, and adaptable nurses. Recognizing this challenge, Almora General Hospital (AGH) launched an innovative Nurse Training Program designed not just for retention but to prepare nurses for global healthcare opportunities while maintaining high standards of patient care. The purpose-driven, structured three-year program builds a resilient, competent, and value-oriented nursing workforce by integrating technical excellence, leadership development, and value-based grooming to equip nurses for both local and international healthcare environments.

Aim/Objective(s)

The program aims to:

- Develop technically proficient, patient-centered, and globally competitive nurses through structured training.
- Bridge the gap between education and real-world clinical practice by fostering critical thinking, ethical decision-making, and leadership skills.

Strengthen workforce sustainability by ensuring nurses are prepared for long-term careers in both local and global healthcare systems.

Methods

AGH implemented a structured, competency-based model combining theoretical instruction, hands-on training, and mentorship from experienced management and healthcare professionals. Key components include:

- Three-Year Structured Development Plan: A progressive curriculum covering fundamental to advanced clinical skills, patient experience, leadership training, and healthcare ethics.
- Hands-on Clinical Training & Global Exposure: Real-world hospital experience ensures readiness for diverse medical settings.
- Simulation-Based Learning: Real-case scenario training enhances decision-making and crisis management skills.
- Value-Based Grooming & Purpose-Driven Development: Nurses are trained with compassion, integrity, and accountability, reinforcing a patient-first culture through interactive workshops and bedside coaching.
- Certification and Global Readiness: The program aligns with international nursing competency frameworks, ensuring graduates meet global employment standards.

Continuous Feedback & Performance Evaluation: A data-driven feedback loop aligns training with hospital quality metrics and patient care outcomes.

Results

Since its inception, the program has demonstrated measurable success, including:

- 30%(approx.) increase in nurse retention within AGH, ensuring workforce continuity.
- 40%(approx.) improvement in clinical competency scores, validated through standardized assessments.
- 20%(approx.) increase in patient satisfaction scores and a 20%(approx.) reduction in clinical errors.

Stronger leadership pipeline, with nurses advancing into specialized roles and leadership positions.

Conclusion

AGH's Nurse Training Program serves as a replicable model for hospitals worldwide seeking to develop, engage, and retain a skilled, purpose-driven nursing workforce. By integrating technical proficiency, ethical education, mentorship, and career development, this initiative empowers nurses to deliver high-quality, patient-centered care with competence, confidence, and purpose – both locally and globally.

Conflicts of interest related to this abstract: None

L-1009

Challenges and strategies in health outcomes: an effective management model in public health

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Introduction

Brazil has a Unified Health System (SUS) with universal coverage for 211 million inhabitants. The scarcity of resources is a challenge for ensuring the quality of care. The Evandro Freire Municipal Hospital HMEF, located in Rio de Janeiro, is the only public emergency hospital in a region with 28 neighborhoods and approximately 1 million people. It is managed through a public-private partnership and the amount of funds transferred is fixed, with no possibility of maneuvering in the face of market

fluctuations or variations in the epidemiological profile. The demand for emergency care grows year after year, but the resources transferred by the government do not keep up with this increase. Overworked staff and overcrowded units can directly compromise the quality of the services provided. Epidemiological analyses and quality certifications have been a disciplinary strategy of management to face the difficulties in operationalizing care.

Aim/Objective(s)

Evaluate the timeline of emergency care. Perform a comparative analysis of care in relation to process and outcome indicators. Analyze the rate of care for conditions sensitive to Primary Health Care (PHC). Comparative analysis of the coefficient of variation of emergency care. Comparative analysis of the patient's risk classification profile with the variation profile of outcome indicators. Use the results of the analysis of indicators and the epidemiological profile as strategies in senior management decision-making and in institutional planning to improve care. Invest in the culture of quality certifications to improve processes and patient experience, applying the concepts of the decision matrix in health care, operationalizing the ratio of greater efficiency and lower cost.

Methods

This is a descriptive study. The data used to analyze the indicators and epidemiological profile were extracted from the MV system and the Data Management Panel of the Management Office. The analysis period was from 01/2022 to 01/2025. The groupings of causes according to the International Classification of Diseases and Related Health Problems (ICD-10) were used as epidemiological evaluation criteria. The requirements manual in the methodology of the National Accreditation Organization (ONA) was used for recognition and external validation of the results obtained in the operational units. The Epimed system was used to obtain and maintain patient safety and efficiency certification in intensive care.

Results

During the analysis period, the number of visits increased from 57,554 (monthly average of 4,730) to 77,699 (monthly average of 6,200), with an overall coefficient of variation of 25% increase in demand. However, the highest coefficient of variation was in the number of ambulances received (206% increase). Georeferencing indicated that at least 30% of visits were for people from areas covered by other health services. At least 20% of visits were for PHC-sensitive conditions, including pneumonia, hypertension, diabetes, urinary tract infections, and gastrointestinal conditions that could have been monitored by local services. The analysis of these results was included in the planning of the decision matrix to invest in ONA certifications and excellence in patient safety as strategic measures to improve care. Despite the significant increase in demands, the patient safety culture combined with process management resulted in a significant reduction in indicators such as: TMP in observation (25% reduction); Waiting time for medical care (10% reduction); Mortality rate <24h (53% reduction); Mortality rate >24h (71% reduction). It was observed that variations in the percentage of red risk classification have a direct impact on the mortality rate <24h.

Conclusion

Between 2022 and 2025, the disciplinary pillars of management were worked on based on the ONA accreditation methodologies. The pillars of a fair culture for patient safety and analyses of outcomes associated with the use of resources in intensive care were implemented. The requirements focused on patient safety were fundamental in organizing and improving care processes. The investment in a team specialized in analyzing epidemiological data supported decision-making based on the real health needs of the population. The reduction in mortality rates

was considered the greatest healthcare achievement in favor of the lives of people treated in the emergency room, which, despite operating with an average occupancy of 170% and budgetary restrictions, demonstrated that it is possible to offer quality care in public health. The ONA1 accreditation, patient safety certification and the Top Performer ICU seal were obtained by the Epimed system. Accreditation is provided for by the National Policy for Regulation of the Unified Health System, as a measure to monitor compliance with regulatory standards, however, these concepts are rarely discussed in Brazilian public health. Currently, HMEF is the only public emergency hospital in Rio de Janeiro with the ONA accreditation seal.

Conflicts of interest related to this abstract: I declare that I have no conflict of interest.

L-1010

Driving innovation in integrated care A participatory leadership model through the Innovem project

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Introduction

Healthcare and social services face increasing challenges in delivering person-centered, integrated care while fostering innovation and sustainability. Traditional leadership models often fail to engage multidisciplinary teams, users, and caregivers in co-designing effective solutions. Fundació Aspace Catalunya has implemented the Innovem Project, a participatory innovation framework that encourages bottom-up leadership and collaborative problem-solving. Through an idea-generation competition, professionals, users, and families contribute to service improvements, bridging gaps between healthcare, social, and community services. This study explores how participatory leadership can enhance innovation in integrated care models, leading to improved accessibility, efficiency, and sustainability. The project aligns with broader strategies for healthcare transformation, fostering a culture where innovation is embedded in daily practices and strategic planning.

Aim/Objective(s)

The Innovem Project aims to create a scalable, participatory innovation model for integrated healthcare and social services. The specific objectives are:

- To analyze how participatory leadership fosters innovation and cross-sector collaboration.
- To assess the impact of bottom-up innovation on care delivery, efficiency, and service coordination.
- To identify best practices for embedding Design Thinking and co-creation into healthcare leadership strategies.
- To develop a replicable model for other healthcare organizations seeking to integrate innovation into strategic planning.

By demonstrating the effectiveness of user-driven innovation, this study provides actionable insights for leaders aiming to transform healthcare systems through participatory governance.

Methods

This project employed a participatory action research approach, integrating Design Thinking methodologies to analyze how bottom-up innovation fosters leadership in integrated healthcare and social services.

- Participants: The project engaged multidisciplinary teams (healthcare professionals, social workers, and administrative staff), users, and family caregivers from Fundació Aspace Catalunya.

- Data Collection:
 - Phase 1: Surveys and focus groups to identify key innovation challenges.
 - Phase 2: Co-creation workshops using Design Thinking (Empathize, Define, Ideate, Prototype, Test) to generate and refine solutions.
 - Phase 3: Pilot implementation of selected innovations, followed by outcome assessments.
- Tools Employed: Digital collaboration platforms, qualitative coding software for thematic analysis, and impact assessment frameworks.
- Data Analysis: A mixed-method approach was used, combining quantitative metrics (staff engagement, project scalability) and qualitative insights (interviews, innovation adoption experiences).

This structured methodology ensured that leadership transformation and innovation impact were assessed comprehensively.

Results

The implementation of participatory leadership through the Innovem Project yielded significant improvements in innovation adoption, collaboration, and healthcare service efficiency.

- Increased engagement: 78% of professionals reported a higher sense of ownership and empowerment in decision-making.
- Improved service efficiency: Projects developed through co-creation workshops led to a 30% reduction in administrative delays in patient-centered interventions.
- Scalability and replication: 65% of tested innovations were integrated into routine service operations, demonstrating long-term viability.
- Enhanced interdepartmental collaboration: A 45% increase in cross-sector initiatives between healthcare and social services was observed, reducing fragmentation.
- Challenges and areas for improvement: Barriers included staff resistance to change (20%) and limited digital infrastructure (15%), indicating the need for further training and investment.

These findings highlight participatory leadership as a key driver of sustainable innovation in integrated care models, offering a replicable approach for scaling co-creation methodologies in healthcare governance.

Conclusion

The Innovem Project has demonstrated that participatory leadership in healthcare and social services fosters sustainable innovation, enhances service efficiency, and strengthens user-centered care models. By integrating Design Thinking and co-creation methodologies, Fundació Aspace Catalunya has successfully bridged gaps between healthcare professionals, social workers, and service users, leading to scalable and replicable solutions. Findings highlight the need for leadership models that promote collaborative decision-making, digital transformation, and intersectoral partnerships. The reduction in administrative delays, increase in staff engagement, and improvement in cross-sector collaboration confirm the value of bottom-up innovation. To ensure long-term impact, future efforts should focus on strengthening digital infrastructures, expanding training programs for participatory methodologies, and embedding innovation into healthcare governance structures. The Innovem framework offers a scalable roadmap for healthcare institutions seeking to align leadership strategies with innovation-driven, integrated care models.

Conflicts of interest related to this abstract: None

L-1011

Light at the end of the tunnel, sustainable personalized experiences in EHS.

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Introduction

The healthcare sector is a dynamic ecosystem requiring continuous knowledge and skill updates. Traditional training programs often fail to engage learners and deliver measurable impact. EHS developed the Maharati platform to address these challenges, focusing on personalized learning, knowledge management, strategic technology adoption, and continuous improvement.

Aim/Objective(s)

The aim of the Maharati platform is to provide effective learning and development (L&D) solutions that cater to the diverse needs of EHS's workforce, ensuring alignment with strategic objectives and fostering a culture of continuous improvement.

Methods

Maharati leverages a cloud-based platform accessible anytime, anywhere, and on any device. It includes eLearning courses, knowledge repositories, and AI-powered personalization. The platform was developed using existing open-source LMS software, creatively adapted to meet EHS's specific needs, and adheres to relevant ISO standards for quality assurance.

Results

Maharati has delivered over 1.6 million eLearning contact training hours, resulting in cost savings exceeding USD 8 million. User satisfaction remains above 90%, with over 700 in-house eLearning courses and 31 active Knowledge Repositories created. The platform has supported gender balance, reduced paper consumption, and lowered CO2 emissions.

Conclusion

Maharati has demonstrated the power of personalized learning, knowledge management, and strategic technology adoption in addressing L&D challenges. The platform's success highlights the importance of visionary leadership, innovative thinking, and data-driven decision making in achieving sustainable and impactful L&D outcomes.

Conflicts of interest related to this abstract: None.

L-1012

Shaping Young Generation in Healthcare: The Bidirectional Impact of the Summer Youth Volunteer Programme

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Introduction

Given the environmental and population changes, there is a growing need for manpower in public hospitals. In Hong Kong, 20% of youth express interest in pursuing a university degree in fields such as medicine, nursing, or public health. However, many of these young individuals have limited opportunities to gain hands-on experience in hospital settings. Volunteer service plays a vital role in supporting Hong Kong's healthcare system, acting as a strong pillar that complements the work of medical professionals. In the New Territories West Cluster (NTWC), 4,410 registered volunteers collectively contribute an impressive 51,077 hours of service annually. Their contributions span a wide range of responsibilities, including patient support,

hospital operations, and initiatives focused on patient education and health promotion. Therefore, the opportunity of volunteerism in hospital not only provide a platform for job tasting, but also alleviate the manpower shortage in hospital in certain extent.

Aim/Objective(s)

To address the need for youth development in healthcare and relieve the manpower shortage in hospital, the innovative Summer Youth Volunteer Programme (SYVP) was launched. With an emphasis on "Sensitive, Passionate, Altruistic, Responsible, and Knowledge" (SPARK), this programme aims to provide aspiring youths with essential knowledge and skills through comprehensive hospital orientations, diverse service opportunities, and on-the-job mentorship while nurturing their personality traits in developing a career as helping professional.

Methods

Between June and August 2024, 230 youth volunteers participated in the SYVP providing support to 15 clinical, administrative, allied health and supporting departments, such as Accident & Emergency(A&E), General Outpatient Clinic, and Pharmacy. A hospital orientation programme with core volunteer training (i.e. hospital introduction and infection control), advanced training (i.e. communication skills) and exposure programme (i.e. career sharing and interview workshop) was provided in collaboration with clinical staff and Human Resources Department. Youth volunteers completed the General Self-Efficacy Scale (12-item) before and after the programme. A self-constructed Impact of SYVP questionnaire and a programme evaluation was also administered upon completion. Additionally, qualitative feedback was collected from user departments to evaluate the programme's impact on their daily operations and on patients' hospital experiences.

Results

Among the youth volunteers, 79% were aged 15–17 years, and 60.2% expressed career aspirations in allied health professions, such as physiotherapy and clinical psychology. The youth volunteers contributed over 7,500 hours of service which largely alleviate the administrative and supporting staff's workload. Upon completion, 100% of them reported increased understanding of hospital operations, 100% of them reported an increased understanding on patients' physical and psychological needs, and 96.6% found the experience beneficial for their career development. A slight improvement in participants' GSES scores was observed after the programme ($M = 29.70$, $SD = 5.60$). Youth volunteers reported significant changes and growth in arSerene Seas such as personal development, interpersonal relationships, social accountability, and professional competence within a medical context. User departments highlighted the positive impact of youth volunteers on both patients and departmental operations. Notably, with the assistance of youth volunteers, the utilization of online system HA GO increased significantly, leading to shortened waiting time at shroff and pharmacy. Additionally, youth volunteers provided valuable support for various repetitive administrative tasks, alleviating the manpower to more holistic patient care.

Conclusion

Strategically, the scheme demonstrated a promising framework in creation of a talent pipeline, alleviating manpower shortage in hospital, and provision of efficient care to patients in the long run. The SYVP increased youth's exposure to healthcare careers, developed essential skills through structured training, and facilitated engagement with professionals in the field. The proactive approach cultivated a talent pool that can fill the critical role when available in the future. In addition, by taking on the non-clinical roles, workload of hospital frontline staff can be immediately alleviated. Ultimately, by fostering new generation in healthcare setting, the initiative positively influences youth's

development of a healthcare career trajectory, leading to a sustainable healthcare system and a more comprehensive patient care.

Conflicts of interest related to this abstract: None

TRACK 1: LEADERSHIP IMPERATIVES: TRANSFORMING SERVICE DELIVERY THROUGH GOVERNANCE, PARTNERSHIPS, AND PLANNING

L-1013

A Strategic Model for Tiered Maternity Care: Lessons from Abu Dhabi's Healthcare Transformation

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Introduction

Maternal and infant health are fundamental components of global healthcare systems. Abu Dhabi's infant mortality rate (IMR) has been declining, yet rates are still higher vis-à-vis high-income countries. This highlighted the need for a structured, efficient maternity care system. The lack of a tiering system for maternity care in Abu Dhabi led to inconsistent service delivery and inefficient resource utilization. Specifically, 46% of healthcare facilities were operating beyond their capacity, resulting in suboptimal care and outcomes. To address these challenges, a Tiered Maternity Framework was developed to realign facilities according to their respective capabilities, ensuring the appropriate management of maternal and neonatal care at varying levels of complexity.

Aim/Objective(s)

- Develop a Tiered Maternity Framework tailored for Abu Dhabi, informed by global best practices and local healthcare needs.
- Standardize maternity care services by classifying healthcare facilities based on well-defined criteria.
- Optimize resource allocation and service delivery to improve maternal and neonatal outcomes.

Methods

The project followed a systematic, evidence-based approach:

1. Benchmarking Analysis: Assessed global tiering systems from the UK, USA, and Australia, adapting insights for Abu Dhabi's context.
2. Stakeholder Engagement: Collaborated with local subject matter experts and the Department of Health (DOH) to validate the framework.
3. Facility Assessment: Evaluated healthcare providers based on their capabilities, workforce distribution, and technological readiness.
4. Tiered Maternity Framework Implementation: Established standardized care protocols and optimizing resource allocation across all tiers to achieve consistent, quality care for mothers and infants.
5. Digital Integration: Implemented AI-driven predictive analytics for enhanced risk profiling and patient categorization.

Results

The implementation of the Tiered Maternity Framework in Abu Dhabi resulted in:

- 32% reduction in Infant Mortality Rate, decreasing from 6.7 to 4.7 per 1,000 live births, demonstrating the framework's positive impact.
- Improved NICU utilization rates, aligning high-risk neonates with appropriately equipped tertiary care centers.

- Successful development of AI-driven risk stratification, which has shown potential for automated decision-making and early interventions in future implementation phases.
- A scalable model with potential for nationwide expansion across the UAE.

Conclusion

This initiative highlights the importance of integrating global standards, local expertise, and data-driven strategies to transform healthcare. The Tiered Maternity Framework provides a replicable model for other regions aiming to improve maternal and neonatal health outcomes. Abu Dhabi's IMR successfully decreased to 4.7 per 1,000 live births in 2024, demonstrating the framework's positive impact. Moving forward, future initiatives will focus on:

- Expanding AI-driven analytics to further refine risk profiling and care pathways.
- Enhancing telemedicine services to improve access to maternal healthcare in underserved areas.
- Scaling the framework nationwide, ensuring equitable and efficient maternity care across the UAE.

Conflicts of interest related to this abstract: None

L-1014

i4KIDS Pediatric Innovation Hub

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Introduction

Despite children comprising a significant portion of the global population, pediatric healthcare innovation remains underfunded and fragmented, lagging behind adult medicine due to market limitations, regulatory complexities, and a lack of dedicated investment. Many childhood diseases remain underserved, leaving critical gaps in diagnostics, treatments, and medical technologies. Sant Joan de Déu Children's Hospital (SJD), a leading European pediatric institution, established i4KIDS to address these challenges. As a Pediatric Innovation Hub, i4KIDS fosters collaboration between hospitals, industry leaders, researchers, startups, and patient associations to drive child-specific healthcare solutions. Through need identification, solution development, and acceleration programs, i4KIDS bridges the gap between research and implementation, ensuring that pediatric healthcare advancements reach clinical practice. By integrating digital health, AI, and novel therapies, i4KIDS is improving patient outcomes, strengthening public-private partnerships, and positioning pediatric healthcare innovation as a global priority.

Aim/Objective(s)

i4KIDS aims to bridge the gap in pediatric and maternal healthcare innovation by fostering collaboration, accelerating research translation, and supporting the development of child-specific medical solutions. Despite children representing a significant portion of the population, pediatric healthcare innovation remains underfunded and fragmented. i4KIDS seeks to identify unmet clinical needs, promote the development of innovative solutions, and facilitate their market adoption.

The objectives include:

- Identifying and addressing pediatric healthcare challenges through hospital-driven and industry-led innovation programs.
- Supporting startups and research teams via the i4KIDS Acceleration Program, providing regulatory guidance, business development, and clinical validation.
- Enhancing public-private partnerships through initiatives like the Challenge-Based Hospital and Industry Programs.
- Improving investment readiness for pediatric innovations through structured mentorship, pitch competitions, and investor networking.
- Expanding international collaboration and knowledge exchange to position pediatric healthcare innovation as a global priority.

Methods

i4KIDS employs a multi-stage approach to pediatric healthcare innovation, integrating need identification, solution development, validation, and market adoption. It engages hospitals, industry leaders, startups, researchers, and patient associations to co-create solutions addressing unmet clinical needs in pediatric and maternal healthcare. Through focus groups, interviews, and co-creation workshops, i4KIDS identifies healthcare challenges, driving initiatives such as the Challenge-Based Hospital Program, which partners with hospitals to solve clinical and operational issues, and the Challenge-Based Industry Program, collaborating with corporate partners like AstraZeneca to develop industry-driven solutions. The i4KIDS Acceleration Program provides regulatory mentorship, clinical validation support, and business strategy guidance, increasing Technology Readiness Levels (TRLs) and preparing projects for market adoption. Additional initiatives, including pitch competitions, the Roadmap Tool, and Meet-the-Expert & Meet-the-Investor events, further enhance innovation readiness.

Results

i4KIDS has advanced pediatric and maternal healthcare innovation by fostering collaboration, accelerating research, and bridging the gap between clinical needs and market solutions. Through its structured programs, it has supported high-impact projects, securing direct funding while leveraging additional investments. The Acceleration Programme has guided research teams and startups through regulatory, clinical, and commercialization challenges, increasing their Technology Readiness Levels (TRLs) and expediting market adoption. The Challenge-Based Industry and Hospital Programmes have addressed critical pediatric healthcare gaps. The Paediatric Innovation Challenge, in collaboration with AstraZeneca, targeted pediatric influenza, while the i4KIDS-EUROPE Hospital Challenge 2024 engaged 16 leading European hospitals to optimize clinical workflows and medication administration. To further support pediatric innovation, i4KIDS contributed to the Montana Impact Fund, a €30 million initiative financing pediatric health startups, fostering investment in prevention, personalized treatments, and quality of life improvements. Internationally, i4KIDS has expanded through key European projects, including i4KIDS-EUROPE (White Paper on Pediatric Innovation), ADD4KIDS (demand-driven funding optimization), and i4KIDS-4RARE (orphan medical device development). Additionally, i4KIDS has trained 600+ professionals, identified 364 pediatric startups, and secured three major EU project grants, driving meaningful improvements in pediatric healthcare innovation across Europe.

Conclusion

i4KIDS is addressing the critical gap in pediatric and maternal healthcare innovation by fostering collaboration, accelerating research translation, and ensuring that child-specific medical solutions reach the market. By engaging hospitals, industry leaders, startups, researchers, and patient associations, i4KIDS

is creating a dynamic ecosystem that enhances pediatric healthcare outcomes. Through structured programs like the Challenge-Based Hospital and Industry Programs, i4KIDS is directly tackling unmet clinical needs, while the Acceleration Program provides essential mentorship in regulatory processes, business development, and clinical validation. These initiatives improve healthcare services by ensuring innovations are aligned with real-world clinical demands and have a clear path to implementation. Additionally, i4KIDS is shaping policy and investment strategies, supporting demand-driven healthcare models such as Public Procurement of Innovation and Value-Based Healthcare. The Montana Impact Fund is further bridging financial gaps by investing in promising pediatric health startups. By integrating hospital-driven innovation, industry partnerships, and startup acceleration, i4KIDS is reducing barriers to pediatric healthcare advancements, strengthening public-private collaboration, and ensuring equitable access to cutting-edge treatments. This holistic approach improves health services, enhances patient outcomes, and fosters a sustainable pediatric innovation ecosystem globally.

Conflicts of interest related to this abstract: None

L-1015

Where Solutions Start: Data-Driven Insights to Improve Patient Safety and Health Workforce Resilience

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Introduction

Avoidable harm in healthcare has risen post-pandemic, emphasizing the need to redefine and measure safety cultures in Canadian hospitals and beyond. As part of its health quality assessment programs, Accreditation Canada introduced the HSO Global Workforce Survey, gathering insights from 116,000 healthcare workers in 2024. This survey examines the link between patient safety culture and workforce well-being, incorporating principles of psychological, physical, and cultural safety while emphasizing equity, inclusion, and diversity. The findings reveal the connection between safety culture and work-life quality, offering targeted insights to address challenges like burnout and workplace violence. The upcoming Global Workforce Health Index will provide benchmarks to improve safety culture and health outcomes globally. By applying these insights, health leaders can foster safer, more supportive environments for both patients and workers, shaping stronger, more resilient healthcare systems.

Aim/Objective(s)

The HSO Global Workforce Survey aims to raise the bar on safety within health quality assessments by providing a consistent, data-driven tool to measure and monitor patient and workforce safety. Designed to involve all healthcare workers, the survey elevates their voices and encourages collaboration to address issues like burnout, workplace violence, and trust in leadership. By ensuring consistent measurement and enabling analysis across workforce demographics and work units, the survey provides health leaders with tailored, actionable insights. These insights support leaders and their teams to collaborate in driving changes that will improve patient safety culture and workforce well-being.

Methods

The HSO Global Workforce Survey (GWS) uses a web-based platform designed to provide healthcare organizations with actionable insights into safety culture and workforce well-being. Deployed by client organizations to their entire workforce, the survey ensures comprehensive sampling, with data collection

periods customized to each client's needs. The GWS features a dynamic dashboard that allows organizations to analyze results across different work units and demographic groups, in addition to providing an overall organizational perspective. The tool also generates an executive summary report, offering a concise overview of key findings. By providing consistent and customizable data, the GWS equips health leaders with evidence-based insights to address workforce challenges, foster collaboration, and enhance safety outcomes. This research supports data-driven decision-making to improve organizational resilience and create safer, more supportive environments for healthcare workers and patients alike.

Results

In 2024, 116,000 Canadian healthcare workers completed the HSO Global Workforce Survey, which provided critical insights into strengths and areas for improvement. The survey, designed to measure work-life and safety culture, covers seven dimensions: patient safety, wellbeing and engagement, job characteristics, people-centred care, leadership, immediate supervisor, and work team. Preliminary analyses revealed significant areas for improvement, including high levels of burnout, insufficient time to meet job expectations, limited trust in senior managers, lack of positive recognition, and inadequate psychological safety. The survey's methodology involved a comprehensive 65-item questionnaire, developed in consultation with 37 organizations across 19 sectors. This approach ensures the survey's relevance and applicability across diverse healthcare settings. The data highlights the urgent need for targeted interventions to enhance workforce wellbeing and patient safety. Key findings indicated that 46% of respondents working more than 40 hours per week reported burnout, and only 55% of long-tenured employees trust senior leadership/management. These insights underscore the importance of addressing workforce challenges to foster a safer, more supportive healthcare environment.

Conclusion

The HSO Global Workforce Survey yields critical data on workforce safety and well-being, identifying key areas for improvement, including burnout, trust in leadership, and psychological safety, particularly following the pandemic. These findings will inform the development of the forthcoming Global Workforce Index, which will establish global benchmarks to assess and enhance safety culture across healthcare organizations. By providing a variety of metrics, the survey enables organizations to evaluate the effectiveness of current safety practices, identify areas requiring improvement, and address workforce challenges. This approach supports the co-creation of solutions, promoting improvements in workforce retention and patient outcomes. As part of the accreditation process, healthcare leaders will use the survey data to develop action plans tailored to specific demographics, work units, and roles. The ability to conduct longitudinal analysis through repeated surveys allows for the assessment of the impact of these interventions over time. This method ensures comprehensive health system-wide metrics are addressed, extending beyond acute care settings. The survey's innovative contributions to policy, practice, and research offer a robust framework for enhancing safety culture and workforce well-being, ultimately leading to improved health outcomes and a more supportive environment for healthcare workers.

Conflicts of interest related to this abstract: none

L-1016

Maximizing Outpatient Services: A Multi-Faceted Approach to Clinic Utilization

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Introduction

Efficient clinic utilization is critical for delivering timely, high-quality care while optimizing resources. At Evercare Hospital Lahore, a 200-bed tertiary care facility, increasing patient demand and evolving healthcare needs require streamlined clinic operations. Challenges such as appointment bottlenecks, underutilized slots, and fluctuating patient volumes impact efficiency and patient experience. Addressing these issues is essential for value-based care, improving access, and ensuring financial sustainability. By enhancing scheduling, resource allocation, and workflow efficiency, the hospital aims to maximize clinic capacity, reduce wait times, and improve overall patient satisfaction. This initiative aligns with broader healthcare objectives of operational excellence, accessibility, and patient-centered care.

Aim/Objective(s)

The Maximizing Outpatient Services: A Multi-Faceted Approach to Clinic Utilization project aims to optimize OPD efficiency, enhance patient access, and improve hospital sustainability. Key objectives include:

- Reducing OPD slot vacancies through service expansion and targeted consultant promotion.
- Enhancing patient engagement by introducing new specialties and improving accessibility.
- Increasing OPD turnout via financial incentives, including discounted evening/weekend clinics.
- Optimizing resource utilization to minimize revenue loss and improve operational efficiency.
- Implementing continuous performance monitoring to sustain long-term improvements.

By integrating strategic interventions with data-driven decision-making, the project ensures better patient care, efficient outpatient operations, and scalable growth for sustained healthcare impact.

Methods

A structured, multi-faceted approach was used to optimize OPD utilization at Evercare Hospital Lahore. The study involved retrospective and prospective data analysis over eight months.

Participants & Sampling:

- All outpatient clinics across multiple specialties.
- Consultants participating in targeted promotions.
- Patients utilizing financial incentives (discounted evening/weekend clinics).

Data Collection & Tools:

- OPD booking trends, cancellations, and walk-ins analyzed pre- and post-intervention.
- Consultant engagement metrics assessed promotion impact.
- Patient demographics and visit patterns monitored.
- Weekly performance reviews identified low-performing specialties.

Data Analysis:

- Comparative analysis of OPD slot vacancy rates before and after interventions.
- Statistical evaluation of specialty expansion impact (8-12% rise in visits).

- Assessment of financial incentives on patient turnout (20% increase in bookings).

The methodology ensured a data-driven, iterative approach to improving outpatient service efficiency.

Results

The Maximizing Outpatient Services project led to a 63% reduction in vacant OPD slots over eight months, validating the effectiveness of service expansion, targeted promotions, and financial incentives.

Impact of Specialty Expansion & Consultant Promotions:

- Five new specialties increased total OPD visits by 8-12%.
- Individual consultant promotions resulted in a 15-18% rise in consultations.

Effect of Financial Incentives & Accessibility Enhancements:

- Discounted evening and Saturday clinics led to a 20% increase in patient bookings.
- Special OPD packages and "Express" morning clinics improved accessibility.

Performance Monitoring & Sustained Improvements:

- Pre-intervention OPD slot vacancy rate: ~43%
- Post-intervention OPD slot vacancy rate: ~16%
- Net improvement: 63% reduction in vacant slots

The data was collected through weekly performance reviews, patient engagement metrics, and statistical analysis of OPD utilization trends. Continuous monitoring allowed for real-time adjustments, ensuring long-term sustainability. These findings demonstrate that a structured, multi-faceted approach can significantly improve outpatient efficiency, patient access, and hospital financial sustainability.

Conclusion

The Maximizing Outpatient Services project directly addresses OPD inefficiencies by enhancing patient access, optimizing resource utilization, and improving financial sustainability. By integrating specialty expansion, targeted promotions, and financial incentives, the hospital significantly reduced vacant OPD slots by 63%, ensuring better patient flow and timely care.

This initiative contributes to health service improvement by:

- Enhancing patient access – Evening/Saturday clinics and discounted packages reduced barriers to care.
- Optimizing resource utilization – Higher OPD turnout ensured better use of consultant time and hospital infrastructure.
- Improving financial sustainability – Increased consultations minimized revenue loss from underutilized slots.

Conflicts of interest related to this abstract: None

L-1017

Mother's Touch, Baby's Lifeline: Championing Lodger Mother and Kangaroo Mother Care Facilities through Public Private Partnerships in South Africa

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Introduction

Neonatal mortality rate (NMR) is a key indicator for Goal 3 of the Sustainable Development Goals (SDG), with a target of fewer than 12 deaths in the neonatal period for every 1,000 live births by the year 2030. Globally, 2.3 million children died in the first month of life in 2022, with majority of deaths occurring in the sub-Saharan Africa. South Africa had NMR of 12.7 per 1,000 live births in 2022/23. Notwithstanding the national decline,

there is great variation by Province, District and facility. TPTH has a consistently high NMR, The leading cause of NMR in the institution is prematurity and infections, which are further attributed to the lack of lodger mother facilities and limited Kangaroo Mother Care (KMC) beds. Interventions at this facility have the potential to reduce NMR for the facility as well as the district, province and subsequently the country to attain the SDG.

Aim/Objective(s)

To reduce institutional neonatal mortality rate at a Tertiary hospital through determining and a cost-effective interventions and implementation through Public Private Partnerships.

Objectives:

1. To determine trends and causes of neonatal mortality rates in TPTH over a 5-year period
2. To conduct a cost effective analysis for interventions to reduce neonatal mortality rate in TPTH.
3. To implement a cost-effective intervention through public-private partnership to reduce neonatal mortality rate in TPTH.
4. To develop recommendations for resource constraints similar hospital settings.

Methods

Routine hospital data from Perinatal data from the Perinatal Problem Identification Programme (PPIP) system was analyzed over a 5-year period (2018-2022) to assess trends in Neonatal Mortality Rate (NMR) and identify the leading causes of neonatal deaths. A literature review was conducted to explore the effectiveness of interventions, particularly breastfeeding support and facilities such as Kangaroo Mother Care (KMC) and Lodger Mother facilities, in reducing neonatal mortality where prematurity is the leading cause. A cost-effectiveness analysis was performed to evaluate potential interventions for the hospital. This included collaboration with the private sector and the Gauteng Department of Health to assess the feasibility and implement cost-effective strategies aimed at reducing neonatal deaths in TPTH.

Results

Analysis of the PPIP data from 2018 to 2022 revealed that the hospital had a higher Neonatal Mortality Rate (NMR) compared to district and provincial averages, with an average of 17 deaths per 1,000 live births and 25 neonatal deaths per month. Prematurity was the leading cause of death (42%), followed by infections (32%) and hypoxia (13%). A cost-effectiveness analysis demonstrated that establishing a lodger mother facility and expanding Kangaroo Mother Care (KMC) beds would be a cost-effective intervention, potentially preventing 173 neonatal deaths annually, with an Incremental Cost-Effectiveness Ratio (ICER) of R1,456,338.00 per death averted. This intervention was deemed both politically and operationally feasible. A stakeholder engagement forum held in November 2024, with participants from both the public and private sectors, led to the Gauteng Department of Health agreeing to establish the lodger mother facilities through a public-private partnership in TPTH. Construction of these facilities at TPTH commenced in March 2025.

Conclusion

The neonatal mortality rate at TPTH consistently exceeds the Sustainable Development Goal (SDG) target, underscoring the urgent need for cost-effective, high-impact interventions to save newborn lives and achieve the 2030 SDG. While a comprehensive approach is essential for reducing neonatal mortality, the establishment of a lodger mother facility and expansion of Kangaroo Mother Care (KMC) beds present a particularly cost-effective strategy. This intervention could prevent 173 ne-

onatal deaths annually at TPTH and is both politically and operationally feasible, requiring minimal resources. It is particularly well-suited for implementation in tertiary hospitals in low- and middle-income countries, especially those facing resource constraints. The successful expansion of these services has been facilitated through a public-private partnership between the Gauteng Department of Health and private entities, highlighting the importance of collaboration for achieving lasting health improvements. Such partnerships, demonstrated during the COVID-19 pandemic response, can accelerate the implementation of critical interventions and serve as a key mechanism for reaching the SDGs. This approach not only contributes to saving lives but also offers a model for scaling up cost-effective neonatal health interventions globally particularly in low socioeconomic settings where tertiary neonatal services are remotely located.

Conflicts of interest related to this abstract: None

L-1018

Rising from Extension to Excellence: Tondo Medical Center's Performance Governance System Revolution

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Introduction

The entry of the new leadership in 2015 started a new era of transformation and embarked on a journey to revitalize the institution from within. The approach allowed the hospital to have a sense of purpose and direction, thus catalyzing innovation and collaboration among staff. Through strategic planning and decisive action, the new leadership addressed longstanding issues head-on, fostering a culture of accountability and excellence. Their proactive stance led to significant improvements in patient care, staff morale, and operational efficiency. Proof is the attainment of the following: Bronze Award for PRIME-HRM, ISO 9001:2015 certification, and the Philippine Tripartite Accreditation for Health Facilities, Inc. certification. These certifications did not deter it from further improving performance. Instead, it started a governance revolution by implementing the Performance Governance System, a framework crafted by the Institute for Solidarity in Asia designed to help public institutions create, execute, monitor, and sustain roadmaps to long-term reform.

Aim/Objective(s)

1. To enhance strategic execution by ensuring the alignment of resources, policies, and programs within the institutional objectives and by translating the hospital's vision into actionable and measurable plans.
2. To promote accountability and good governance by establishing clear performance metrics and reporting mechanisms and encouraging transparency integrity, and responsible leadership.
3. To drive institutional transformation by developing a culture of innovation and adaptability and by undergoing structured change management to improve efficiency and service delivery.
4. To strengthen stakeholder engagement by encouraging multisector collaboration and ensuring policies and programs remain responsive to public needs.
5. To improve service delivery by enhancing institutional capability to deliver quality services and building credibility and confidence in the hospital

Methods

1. Development of Strategic Roadmap – involves the creation of a hospital vision and establishment of measurable performance indicators to track progress
2. Engagement of Multi-sector Representatives – involves the collaboration between government, private, and other sectors of society and the participation of stakeholders in decision-making.
3. Cascading of Strategy – ensures that strategies are aligned from top management level to frontline units and that the employees understand their roles in achieving the organization's goals.
4. Using Scorecards and Governance Mechanisms – implements a balanced scorecard approach to measure performance and establishes governance boards to monitor and sustain reforms.
5. Continuous Improvement and Sustainability – encourages adaptive strategies to respond to challenges and institutionalizes governance practices to ensure long-term impact through processes like operations review, strategy review, and strategy refresh.

Results

	Baseline 2018	2019	2020	2021	2022	2023
Average length of stay for penetrating chest trauma	Target: 7 days 8 days	6	6	7	10	7
# of accredited residency & fellowship programs	Target: 6	8	8	8	8	9
# of clinical pathways being used	Target: 0	0	8	15	34	40
Decrease in the no. of primary cases referred	Target: Decrease to 10% 13%	12%	11%	9%	5%	4%
HAI	Target: Less than 1% hospital acquired infections Less than 2% hospital acquired infections	0.35 %	0.13 %	0.32 %	0.22 %	0.31 %
Decrease in customer negative feedback	Target: Less than 3% negative feedback 3% negative feedback	3%	2%	1%	1%	2%
GAA Budget Utilization	Target: 96%	96%	97%	98%	99%	999 %
	Obligation Budget Utilization Rate 95%	95%	97%	99%	99%	99%
	Target: <10 %	<10 %	<7%	<6%	<3%	<3%
Return-to-Hospital Claims	15%	18%	4%	0.33 %	2.57 %	0.013 %

MOA for SDN with Manila, Caloocan, Malabon, and Navotas.
Gold Trailblazer Award for Initiation/Compliance, 2018

Gold Award for Sultanate of Oman Excellence in Service During Crisis, 2023 IHF Awards

Gold Trailblazer Award for Proficiency, 2024

Honorable Mention for American College of Healthcare Executives Award for Leadership and Management, 2024 IHF Awards

Conclusion

Tondo Medical Center's Performance Governance System (PGS) journey represents a transformative commitment to strategic governance, accountability, and service excellence. Through the structured PGS pathway – from Initiation to Institutionalization – Tondo Med has strengthened its healthcare delivery, stakeholder engagement, and operational efficiency.

By aligning its vision with measurable outcomes, the hospital has implemented patient-centered programs, optimized resource management, and enhanced transparency in decision-making. The establishment of governance mechanisms and multi-sector partnerships has further ensured sustainability and long-term impact.

As Tondo Med continues its PGS journey, it remains steadfast in delivering high-quality, accessible, and responsive healthcare services, setting a benchmark for excellence in public hospital governance.

Conflicts of interest related to this abstract: None

TRACK 1: LEADERSHIP IMPERATIVES: STRENGTHENING HEALTHCARE TALENT PIPELINES THROUGH TRAINING, WELLBEING, AND PARTNERSHIPS

L-1019

Bridging the Skills Gap in Specialized Healthcare Fields: Tailored Training Programs to Meet Evolving Industry Demands.

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Introduction

The Health Academy, under the Saudi Commission for Health Specialties (SCFHS), plays a pivotal role in bridging workforce competency gaps within Saudi Arabia's healthcare sector, aligning with Vision 2030 goals. As healthcare demand evolves, upskilling and retaining a competent workforce is critical for sustainable healthcare transformation. The Academy develops structured training pathways tailored to industry needs, ensuring a future-ready healthcare workforce. According to the World Economic Forum's (WEF) Future of Jobs report 2025, healthcare roles are rapidly evolving due to technological advancements and shifting service delivery models, necessitating continuous investment in workforce development. Additionally, the WHO's global workforce retention to address global healthcare shortages. By implementing targeted training initiatives, the Health Academy ensures workforce adaptability, supports long-term retention, and optimizes healthcare services delivery, reducing the burden on specialized professionals like nurses.

Aim/Objective(s)

- Identify and analyze current and future healthcare workforce gaps, focusing on specialized fields to enhance workforce readiness.
- Develop competency-based training programs aligned with national health priorities and industry requirements.
- Enhance the quality and efficiency of healthcare services and patient outcomes by strengthening the competencies and capabilities of healthcare workforce.
- Align workforce development with Vision 2030 by offering structured training pathways and upskilling initiatives.
- Enhance workforce retention strategies through continuous professional development and engagement.
- Evaluate the impact of the training programs, through ongoing assessment, statistics and data analysis, trainees, alumni, and employer feedback to ensure effectiveness and continuous improvement.

By fostering a learning culture, the Health Academy ensures that healthcare professionals are equipped to meet industry challenges, adapt to evolving healthcare demand, and sustain high-quality patient care.

Methods

The Health Academy employs a competency-based training model to develop a resilient, future-ready workforce, including:

- Workforce Needs Assessments: Identifying skill gaps and tailoring programs through industry-driven analyses.
- Employer and Industry collaboration: Aligning training with real-world demands to address employment gaps,
- Customized Curricula: Designing targeted programs based on workforce demand and evolving healthcare trends.
- Blended Learning Models: Combining online modules and workshops for comprehensive development.
- Digital Learning and Platforms: Leveraging technology for interactive accessible training.
- Hands-on and Simulation-based Training: Enhancing skills through high-fidelity simulations and real-world clinical practice
- Program Evaluation and Impact Assessment: Conducting evaluations by phases via survey and data collection from trainees, graduates, and employers.
- Continuous Assessment and Performance Tracking: Utilizing survey results to refine curricula and align training with workforce needs.

This structured methodology enables scalable workforce development, equipping healthcare professionals with the skills needed to adapt to industry changes ensuring sustained engagement, retention, and workforce adaptability.

Results

The Health Academy's structured training programs have enhanced workforce capabilities, retention, and service-quality. A key initiative, the Clinical Assistants pathway developed to reduce workforce shortages and enhance healthcare efficiency. Its graduates support nursing teams by handling procedural and support tasks, allowing nurses to focus on specialized patient care. Since its inception, the Clinical Assistants pathway has graduated 15,214 professionals across six programs (Patient Care, EEG, ECG, CSSD, Cast Technicians, and Dental Assistants) in 31 batches, representing 50% of all Health Academy alumni, in roles previously performed by nurses. Currently, 6,680 trainees are enrolled. This aligns with the WHO's Task Shifting Guidelines, emphasizing task redistribution to optimize workforce efficiency. Surveys conducted by the Health Academy to measure the impact of the programs on our 70+ partnered employers revealed:

- 86% reported streamlined operations and workflow efficiency.
- 90% observed increased workforce productivity.
- 88% noted reduced nursing workload, enabling specialized care.
- 85% saw improved patient experience.
- 81% reported lower operational costs due to optimized workforce allocation.

The WEF Future of Jobs Report highlights the demand for up-skilled healthcare professionals. Our structured programs address this by preparing graduates for evolving service models, ensuring workforce sustainability in line with the WHO's Global Strategy on Human Resources for Health.

Conclusion

The Health Academy's tailored workforce development programs bridge skills gaps and enhance healthcare's service efficiency. By focusing on structured training, competency-based assessments, and industry collaboration, these initiatives drive workforce engagement and retention, aligning with Vision 2030 to transform the healthcare sector. Clinical Assistants Programs Graduates are integral to healthcare teams, reducing nurses' workload and optimizing workforce utilization. By transitioning trained professionals into clinics, the program contributes to:

- Optimize workforce distribution for efficient task allocation
- Reduce financial inefficiencies, improving cost-effective service delivery.
- Enhance job satisfaction, contributing to higher retention rates.

The WHO's Task Shifting Guidelines emphasize role differentiation to optimize workforce efficiency. By aligning with global recommendations, the Academy ensures scalable and sustainable workforce solutions. The WEF Future of Jobs Report underscores the need for continuous workforce-upskilling to meet the demands of modernized healthcare systems. Healthcare leaders must invest in upskilling, workforce planning and continuous learning to sustain engagement and retention. The Health Academy's initiatives highlight leadership's role in workforce transformation, ensuring professionals are empowered, adaptable, and retained for the future.

By bridging skills gaps and promoting learning, the Health Academy serves as a model for sustainable workforce development, ensuring Saudi's healthcare workforce remains engaged, future-ready, and positioned for long-term success.

Conflicts of interest related to this abstract: None.

L-1020

Enhancing Access to Branded Medications Through Strategic Partnership

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Evercare Hospital Lekki, Nigeria

Introduction

Imagine a mother walking into a hospital, unsure whether she can afford the life-saving medication her child desperately needs. In Nigeria, high costs and supply chain inefficiencies often prevent patients from accessing branded medications. Recognizing this challenge, Evercare Hospital Lekki and Pfizer forged a groundbreaking partnership that is transforming access to essential medicines. By implementing a strategic procurement and distribution model, we didn't just lower costs – we created a scalable, patient-focused solution that is redefining pharmaceutical supply chains in the region. This submission

highlights how collaboration, innovation, and patient-centric strategies turned an industry challenge into an award-worthy success story.

Aim/Objective(s)

The partnership aimed to eliminate financial barriers and improve medication access through an innovative procurement model. Our key objectives included:

Reduce Costs: Establish a strategic pricing model to make branded medications more affordable.

Increase Access: Expand Pfizer medication availability through Evercare's procurement framework.

Enhance Healthcare Outcomes: Improve patient adherence by ensuring a consistent supply of quality medications.

Strengthen Supply Chain Efficiency: Develop a seamless procurement and distribution system.

Improve Patient Satisfaction: Build trust through reliable, cost-effective medication availability.

Methods

Evercare Hospital Lekki and Pfizer developed a strategic partnership to enhance efficiency, innovation, and sustainability in healthcare delivery.

Key actions included

- Data-driven decision-making – analyzing prescription trends to optimize procurement and prevent stockouts.
- Collaborative pricing model – ensured cost savings through volume-based pricing without compromising supply reliability.
- Bulk procurement – leveraged Evercare's purchasing power to reduce costs, while an Automated inventory system minimized stockouts and waste.
- Stakeholder engagement – facilitated smooth adoption through collaboration with healthcare professionals and regulators.
- Strict regulatory compliance – ensured adherence to global pharmaceutical standards, maintaining medication quality and safety.

This strategic approach improved affordability, accessibility, and supply chain resilience.

Results

The impact of this initiative has been transformational, with measurable improvements in cost efficiency, patient access, and supply chain resilience. Key Achievements: 50% reduction in medication costs, enabling access for an additional 20,000+ patients annually. 500% increase in prescription fulfilment, significantly improving patient adherence and health outcomes. Stockout rates reduced by 75%, ensuring uninterrupted branded medication availability. Expanded regional coverage, with distribution reaching 100+ additional hospitals and clinics. Industry Benchmark: The success of this initiative is now being scaled across additional pharmaceutical manufacturers, extending its impact. One patient's story exemplifies the impact: Before this initiative, a diabetic patient, had to ration his medication due to cost concerns. Today, thanks to the Evercare-Pfizer partnership, he receives consistent treatment, significantly improving his health and quality of life.

Conclusion

The Evercare Hospital Lekki and Pfizer partnership has demonstrated significant success in improving access to quality medications, reducing costs, and strengthening the healthcare supply chain. By addressing critical challenges within the pharmaceutical sector, this initiative has positively impacted patient care and healthcare system resilience. This project stands as a benchmark for future healthcare supply chain initiatives, highlighting the power of strategic collaboration and innovation.

Conflicts of interest related to this abstract: None

L-1021

From Flight to Flourish: Transforming Physician Retention Through Strategic Emergency Medicine Education.

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Introduction

Egypt stands at a critical healthcare crossroads despite producing 10,000 medical graduates annually from 27 medical schools (Abdelaziz et al., 2018). A profound physician shortage persists as qualified doctors increasingly seek opportunities abroad, leaving the Egyptian Medical Syndicate's 212,835 active physicians struggling to serve a population exceeding 110 million. When examining this exodus, 73% of emigrating physicians identify "available educational and training opportunities" among their primary motivations; findings corroborated across multiple developing nations, including Egypt (Kabbash et al., 2021), Pakistan (Sheikh et al., 2012), Lebanon (Akl et al., 2008), and India (Searight & Gafford, 2006). This compelling evidence highlights a universal truth: early-career physicians require rigorous, high-quality training to flourish professionally. Without innovative educational interventions, this talent haemorrhage threatens to undermine Egypt's healthcare infrastructure and compromise patient outcomes nationwide.

Aim/Objective(s)

Misr International Hospital recognized that stemming Egypt's healthcare brain drain, particularly in critical domains like Emergency Medicine, requires strategic educational interventions. We identified that investment in comprehensive physician training yields substantial returns when initiated early in medical careers, a principle that became the cornerstone of our innovative approach. This recognition catalyzed the development of a pioneering 9-month intensive Basic Emergency Medicine training program designed to equip young physicians with essential knowledge and fundamental clinical skills required for emergency practice excellence. The program aims to:

1. Create a sustainable pipeline of competent emergency physicians.
2. Establish a unique educational model within the private sector, providing critical training opportunities for physicians without access to university hospital programs.
3. Bridging significant educational gaps for practitioners excluded from traditional academic medical centers.
4. Provide structured mentorship and hands-on training opportunities previously unavailable domestically.

Methods

The Basic Emergency Medicine Training Program ("BEM TP") employs a comprehensive approach addressing cognitive, affective, and psychomotor learning domains through a hybrid educational model integrating synchronized and asynchronized learning modalities.

The curriculum comprises:

1. Practical Training: Bi-weekly 8-hour supervised clinical shifts in Misr International Hospital's Emergency Department under senior physician mentorship.
2. Theoretical Components:
 - Interactive Lectures: 100+ hours covering critical emergency domains from shock management to administrative leadership.
 - Skills Workshops: Hands-on training in procedural competencies, including advanced airway management and resuscitation protocols.
 - Communication Skills Development: Modules addressing conflict management and interprofessional communication.

3. E-Learning Integration: Digital platforms facilitate pre-admission assessment, case studies, electronic logbooks, and structured evaluations. This multimodal approach creates a progressive learning trajectory from fundamental concepts to advanced clinical skills within the 9-month framework.

Results

The Basic Emergency Medicine Training Program has demonstrated remarkable outcomes across multiple performance indicators since implementation. Among the approximately 50 physician graduates, 50% were recruited to staff positions within Misr International Hospital's Emergency Department, creating a sustainable talent pipeline that effectively neutralized the previously pervasive recruitment challenges. Most notably, despite the national five-day average time-to-fill rate plaguing emergency departments across Egypt's private healthcare sector, Misr International Hospital has maintained continuous optimal staffing levels throughout program implementation. Professional trajectory analysis reveals substantial career advancement among program alums, with two graduates now serving as Emergency Department team leaders. Additionally, over 50% of participants have successfully obtained Fellowship in Emergency Medicine credentials, demonstrating the program's efficacy in preparing physicians for advanced certification. The program's excellence received external validation when the Egyptian Health Council, a presidential-level public service regulatory body, granted Misr International Hospital prestigious accreditation as a Training Center in Medicine for a four-year term. Furthermore, the Council recognized the Basic Emergency Medicine Training Program with 50 Continuous Professional Development (CPD) credits, formally acknowledging its significant contribution to Egypt's physician education and healthcare workforce development.

Conclusion

The Basic Emergency Medicine Training Program represents a transformative intervention addressing Egypt's critical physician brain drain crisis. By creating a structured, accessible educational pathway within the private healthcare sector, Misr International Hospital has successfully developed a replicable model for retaining and developing essential emergency medicine talent. The program's demonstrable outcomes – including 50% graduate retention, progression to leadership roles, and high Fellowship achievement rates – validate our central hypothesis that early-career educational investment yields substantial returns in physician retention and service quality enhancement. This correlation between targeted educational intervention and workforce stabilization provides compelling evidence for healthcare policy innovation nationwide.

Our initiative introduces three significant contributions to healthcare delivery systems in resource-constrained environments:

1. A scalable private-sector educational model bridging critical knowledge gaps without requiring academic medical center infrastructure
2. A self-sustaining talent development pipeline addressing specialty-specific workforce shortages
3. A framework for standardizing emergency medicine practice across diverse healthcare settings

As Egypt continues navigating complex healthcare delivery challenges, this program offers a viable blueprint for specialty-specific workforce development that simultaneously addresses brain drain mitigation, quality improvement, and standardization of emergency care – ultimately enhancing patient outcomes while strengthening national healthcare infrastructure.

Conflicts of interest related to this abstract: None

L-1022

Human capital in healthcare: Developing talents and building the future through a new leadership model

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Introduction

In a healthcare context marked by limited economic resources, growing demand from citizens and a strong motivational crisis among staff, the strategic management of the hospital has chosen to adopt leadership as a lever to face the challenge of change in a highly complex organization. The introduced model focuses on human capital, then articulates itself on three interconnected dimensions: well-being, motivation and achievement of sustainable results. This approach aims to replace the traditional paradigms of control and hierarchy with models based on trust, autonomy and individual responsibility, encouraging the development of relational and organizational skills.

Aim/Objective(s)

The aim of the study is to understand the state of subjective well-being within the organization, to spread knowledge on a new leadership model, to create a collective ambition to implement sustainable transformations, to create a network through figures that facilitate communication, collaboration and interaction between middle management and top management. As well as promoting the implementation of health strategies based on networked knowledge, whose assets are cognitive, organizational and behavioral, aligning people to a common vision, acknowledging the importance and need for widespread leadership. This study aims to advance research and development in the field of leadership so that can be used in different healthcare settings. To this end, research is needed to adequately understand how leadership can be measured and assessed, to understand how leadership can function differently in different healthcare systems, and ultimately to discover the most effective way to communicate best practices both within and between healthcare systems.

Methods

It is an observational study that involves the implementation of the organizational project, carried out in the classroom with theoretical and practical training conducted with a "learning by doing" approach. The sample consists of approximately 500 voluntary participants, all employees or collaborators from various operational units and roles within the company. To provide a complete evaluation of the impacts of the organizational project "La leadership che cura", the study adopts a mixed longitudinal design, which combines qualitative and quantitative methodologies. Subjective well-being in the organization is assessed through the use of a questionnaire developed specifically for this purpose, administered at three distinct times: before the classroom intervention, one month before the end and 6 months after the end; divided into different thematic areas to support a qualitative evaluation. At the same time, a documented observation is carried out in narrative form (balcony) which offers a qualitative perspective on the participants' experience.

Results

The preliminary analysis from the first semester involved 485 participants (76.9% women, 23.1% men), with a median age of 49 years (IQR: 40–56). The most represented professional categories were non-medical healthcare professionals (38.76%) and administrative staff (14.2%). Of those invited, 65.2% participated in the first classroom module, and 78% in the second. Currently, 42% of enrolled participants have completed the intervention. The pre-training questionnaire (T0) revealed high competence in social skills (81.11%), communication (80%), and empathy (75%). Emotional awareness was 52.36%, and emotion management was 38.33%. Motivational levels were high for 70% of participants, while 10% reported low levels. Additionally, 65.28% scored highly in emotional resonance and dissonance. As the intervention is ongoing, results from the pre-training questionnaire will be compared with those taken one month and six months after the intervention to assess changes and identify correlations across subscales. Preliminary qualitative analysis suggests that vertical hierarchy is a barrier to change, while active participation has aided in adopting the new leadership model. Analysis of classroom reports and questionnaire scores identified key participants who will undergo further training to support and sustain the change, spreading it across the company with targeted techniques and tools.

Conclusion

The research represents the first attempt to investigate the application of a new leadership model in healthcare organizations. The study intends on one hand to evaluate the effectiveness of the model in the specific context of healthcare companies, but also to provide new scientific evidence, such as to support the use and adaptation of this form of leadership as a training and management approach. The project aims to provide useful tools to identify and define the operational mechanisms and organizational models of reference capable of contributing to creating the best conditions to promote the implementation and diffusion of the leadership approach. According to preliminary data, the stimulation of active participation through the classroom pathway, and capillary bottom-up, through forms of call in action addressed to all involved practitioners through the collection of concrete organizational proposals (e.g., presentation of an organizational problem and its solution) and the activation of specific projects, could promote the assimilation of a new leadership model. The expected results could pave the way for future applied developments and research, contributing to the definition of organizational strategies and training models aimed at improving the quality of leadership in highly complex contexts, such as healthcare ones.

Conflicts of interest related to this abstract: None

L-1023

Identifying Leadership Strategies to Develop Research in a Private Healthcare Organisation

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Introduction

The benefits of having academia embedded within a healthcare institution includes improved patient outcomes and better staff recruitment/retention. There are unique challenges for private healthcare organisations to embrace academia given their focus on cost-effective delivery of high-quality patient care. Leadership is key to developing and implementing effective research strategies. Clinical research in the UAE is developing fast. Industry partners are seeking out opportunities given the diverse patient mix; academic institutions are expanding and

seeking out clinical partners, regulatory processes are maturing, and the availability of government or societal research grants is increasing. In this context, MCME wishes to develop its research activity and identify the key enablers to facilitate these developments. To support this project, it is important to reflect on the past changes to the organisational structure and align these to outcome measures such as study number and publications. This will then inform key decision-making for future development.

Aim/Objective(s)

The overarching aim of the work is to identify key interventions to further the development of research within a private healthcare organisation in a maturing healthcare research ecosystem. The aim of this project was to take stock of past developments by identifying major changes to the organisation's structure and align these to definitive research outcome measures.

Key objectives:

- Identify key changes to the organisation's research team and activity
- Identify any internal or external factors influencing MCME's research activity
- Collate data on two substantive research outcome measures:
 1. Research output in terms of publication volume
 2. Number and type of clinical studies undertaken by the organisation

This will be used to identify any key factors that can influence future organisational plans as part of a new leadership strategy.

Methods

There are two aspects to this project data collection:

1. The authors reviewed the key developments since 2018, and included:
 - Wider organisational developments, e.g. employment / hospital service development
 - Changes to the corporate research team and activity
 - Research regulatory changes
 - Major regional or international external events
2. The authors identified all data that had been recorded to date that could reflect, as accurately as possible, the organisation's research outcomes:
 - Number of research studies from 2016, and type (industry; investigator initiated; grants; multi-centre; academic partner)
 - Number of publications citing MCME from 2022–2024, and type of publication in 2024 (case reports; clinical trials; reviews/ data analysis; consensus statements/ guidelines; editorials/ chapters; innovation/ AI; basic science; questionnaires; medical education).

Following this, a review of the research outcomes aligned to a timeline of the key developments was undertaken and reported.

Results

Timelines:

- 2016: Establishment of MCME research office (one full-time staff)
- 2018: MCME REC recognized by UAE regulators; opening of new Dubai hospital – now 3rd largest in MCME
- 2019: New research office member to develop links with major academic partner; COVID pandemic starts
- 2020: MCME clinical centres of excellence development; research office reporting to Senior Corporate Medical Director (SCMD): aligning with quality governance
- 2021: Abu Dhabi regulator allows interventional clinical trials

- 2022: Changes to MCME policies/processes to improve research approvals, attract industry and internal financial modelling
- 2023: Resignation of SCMD; one (of two) research office team took extended leave
- 2024: Appointment of CAO taking responsibility for the research office

Research Studies:

- Before 2018, MCME had 17 studies, completed/ongoing. At end 2024, these numbered 353.
- Graph 1 shows new studies per year, noting the impact of the COVID pandemic (2020-negative; 2021-positive) and staff absence (2023).
- Graph 2 shows the origin of current ongoing studies, noting 59.6% are MCME investigators.
- In 2022, MCME published 54 articles, with 50% in collaboration with other organisations. This increased to 151 articles in 2024: 70.2% with collaborators.
- Graph 3 shows the publication type in 2024, noting many were clinical studies, either data analyses or investigational.

Conclusion

Doctors engage in research for multiple reasons, e.g., advancing knowledge, personal academic progression and fulfillment/curiosity. For a healthcare organisation, improving patient care is the primary aim, but reputation, attracting funds for development, and gaining a competitive advantage are acknowledged benefits. Clinical research requires leadership and development of an organisation's sustainable infrastructure for success. A UAE-based private healthcare organisation faces unique challenges in this developing research ecosystem. Since the introduction of a research office, there has been a steady increase in the number of clinical studies/ publications. Ignoring COVID's impact, research office manpower and focused leadership correlate to new study approvals. Current studies are mostly investigator-initiated suggesting a supportive environment. There is good evidence of external collaboration. Attracting grant funding remains elusive. MCME investigator-initiated clinical interventional studies remain small. The breadth of publication type is noteworthy. This work has identified two key objectives: increasing the number/ proportion of industry-led clinical interventional studies and developing competitiveness for grant awards, e.g., through collaborative research groups. In the recent past, specialist and focused leadership with the correct research staff skill-mix and number are the key factors for enabling research, and these should be the focus for leaders when designing organisational research strategies.

Conflicts of interest related to this abstract: None

L-1024

Longitudinal monitoring of a well-being score for physicians in training at Geneva's university primary care medicine division

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Introduction

Well-being at work is an essential element in any individual's life balance. It has most often been studied from the negative angle of suffering or burnout, in other words burnout screening. The prevalence of burnout is higher in the medical profession than in other sectors and its presence can have significant re-

percussions, including on the quality of care. This study explores the longitudinal evolution of a well-being score (fulfillment) for physicians in training at the SMPR.

Aim/Objective(s)

The project aims to improve well-being at work within the institution, starting with the division of primary care medicine as a pilot. Objectives towards this ultimate goal include screening and monitoring individuals' state of well-being. Screening is often necessary to raise participants' awareness of their own state of well-being at work. At the institutional level, the project seeks to monitor the evolution of well-being at work, and to evaluate the potential contribution of events that are internal to the institution (changes in organization, change of manager in particular) or external to the institution (changes in the law or pandemic for example). The project also evaluates potential associations between well-being and certain elements of the personal and socio-demographic profiles of participants or their activities in the institution.

Methods

Between September 2021 and November 2024, all physicians in training in the division were invited to complete online questionnaires: on arrival, at the end of each semester, and at the end of their training. The main tool was the "Stanford Professional Fulfillment Index" (PFI), a 16-question Likert questionnaire, which measures two scores, one screening for professional fulfillment (SFU, positive if ≥ 3) and the other for burnout (SBO, positive if ≥ 1.33). All physicians at the SMPR were included if they answered at least one questionnaire in time. Analyses included descriptive analyses with percentages and 95% confidence intervals, as well as continuous scores with means and standard deviation. Associations were also evaluated using linear regression models with a positive SFU or SBO as outcomes. Determinants taken into consideration were age, gender, number of children, years of training, vocation at work, interaction with colleagues, and support in personal development within the institution.

Results

We analyzed 323 questionnaires completed by 175 participants out of the 223 internal medicine physicians invited to participate (78% participation rate). We were able to determine the evolution of these scores according to the time of submission (Table 1 and Figure 1) and according to the stage of training in the division (Table 2 and Figure 2). A subgroup analysis of physicians who had a minimum of 4 data points was also conducted, showing that the individual longitudinal follow-up of PFI scores is possible (figure 3). Analyses showed associations between a positive SFU score and the number of years in training, considering medicine as a vocation, or when the physicians reported being well supported in their personal development during the last semester. A positive SFU or SBO scores were not associated with gender or the number of children.

Conclusion

It is important to collect and longitudinally monitor a well-being score within institutions and more specifically university hospital-based training programs in medicine. Certain elements

emerge that can better explain the evolution of physicians' well-being. In the future, continuing the study, extending it to all the division's physicians (including senior physicians) or setting up a more interactive platform will enable us to confirm and further explore certain results and reinforce the culture of peer-to-peer care.

Conflicts of interest related to this abstract: None

Figure 1. Evolution of positive fulfillment (SFU ≥ 3) and burnout (SBO ≥ 1.33) score over time in the division of primary care medicine

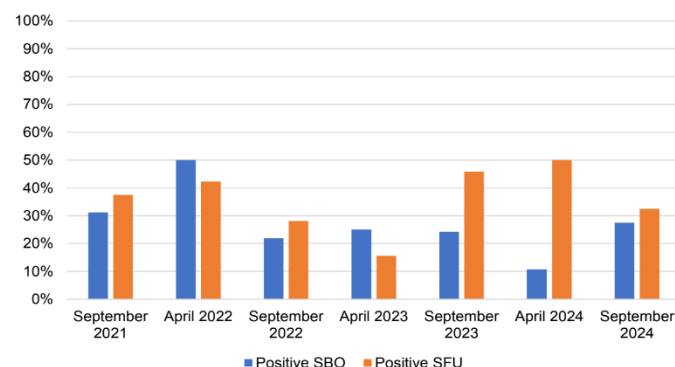


Figure 2. Evolution of positive fulfillment (SFU ≥ 3) and burnout (SBO ≥ 1.33) score over training stage in the division (on arrival, at 6 months, 1 year, 2 years, and at the end of training)

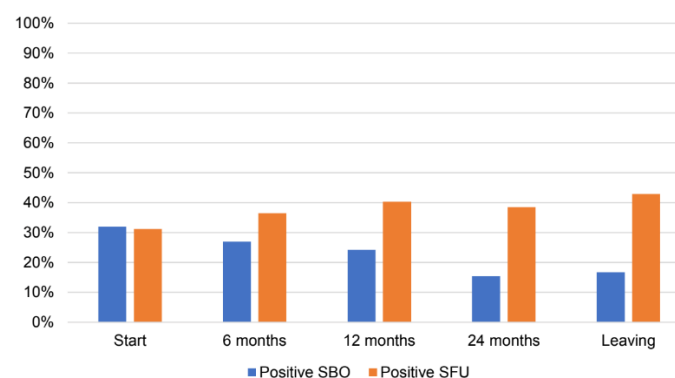
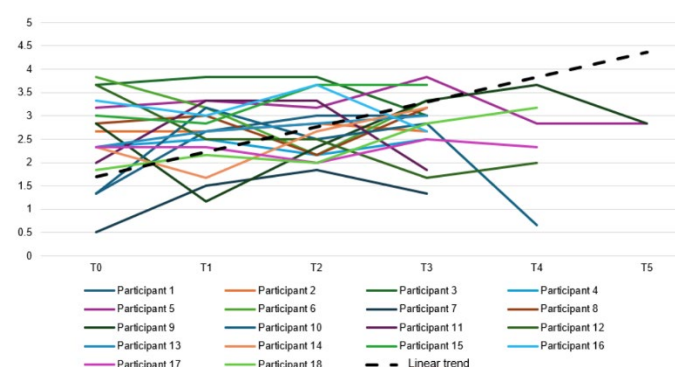


Figure 3. Longitudinal evolution of individual fulfillment scores (SFU) over time



TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: REDESIGNING CARE: INNOVATION, SAFETY, AND PERSON-CENTRED SOLUTIONS

L-2001

A BRAIN HEALTH SERVICE FOR THE PREVENTION OF DEMENTIA AND ALZHEIMER'S DISEASE IN GENEVA: IMPLEMENTATION OF A NEW PATIENT JOURNEY

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Introduction

Observational population studies indicate that prevention of dementia and cognitive decline is being accomplished, possibly as an unintended result of better vascular prevention and healthier lifestyles. Population aging in the coming decades requires deliberate efforts to further decrease its prevalence and societal burden. Increasing evidence supports the efficacy of preventive interventions on persons with intact cognition and high dementia risk. We have led a European Task Force that developed recommendations for the deployment of second-generation memory clinics (Brain Health Services) whose mission is evidence-based and ethical dementia prevention in at-risk individuals. The cornerstone interventions consist of (i) assessment of genetic and potentially modifiable risk factors and risk stratification, (ii) risk communication with ad-hoc protocols, (iii) risk reduction with multi-domain interventions, and (iv) cognitive enhancement with cognitive and physical training. A roadmap was proposed for concept validation and ensuing clinical deployment (Frisoni et al. *Lancet Reg Health Eur.* 2023;26:100576).

Aim/Objective(s)

Aims of the project are:

- to put into action the recommendations of the European Task Force by developing a functional spin-off of the Geneva Memory Center at HUG that will offer the dementia prevention patient journey to residents of the Geneva area
- evaluate the cost/benefit ratio of the programme and develop a long-term sustainability plan.

Methods

PARTICIPANTS. 1000 persons aged 50 and over with no cognitive impairment and a positive family history and/or memory complaint. **INTERVENTION.** The program will take place for 4 years (2025–2028) and consist of: (i) risk assessment, using an app created ad hoc to assess the 18 known risk factors for Alzheimer's disease and dementia. This will categorise participants according to level of vascular and neurodegenerative risk; (ii) risk communication, an exercise considerably more complex than communicating diagnosis; (iii) risk reduction and cognitive enhancement, carried out according to the FINGER protocols for patients at high vascular risk and the GINGER (Swiss FINGER) protocol for patients at high neurodegenerative risk. **SUSTAINABILITY.** Data will be collected on the consumption of medical and social resources by the beneficiaries of the programme. In collaboration with Deloitte, several sustainability scenarios will be studied (e.g. supplementary insurance, LAMAL insurance, private funds, pro capita reimbursement systems, among others).

Results

The programme has started with a pilot in January 2025. At IHF in November 2025 we plan to present the programme and preliminary results on about 100 participants.

Conclusion

It can be calculated that a minimal intervention to reduce the risk of dementia by targeting smoking, high blood pressure and

hearing loss could reduce dementia rates by 8.5% and save the Canton of Geneva 16 million. Our intervention will be much more articulated, with possibly much higher cost savings. Currently only ten or so centres in Europe are in the process of developing prevention programmes for people at risk of dementia and Alzheimer's disease, all of which are part of a network led by HUG. This project wants to be the forerunner of a new and expanding health offer that will allow Western societies to respond to the challenge posed by aging societies.

Conflicts of interest related to this abstract: None

L-2002

Elastomeric pumps in a Hospital at Home Program in Latin America: Enhancing health resources, patient safety, and clinical outcomes.

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Introduction

Hospital at Home Programs allow outpatient treatment and control of serious and complex situations, such as infectious processes, which often require prolonged hospitalization and prolonged intravenous treatments without an effective oral alternative. Without these Hospital at Home Programs, patients should remain hospitalized. Elastomeric infusion pumps are portable, programmable, lightweight pumps for the administration of medications in continuous infusion in a nominal flow. Elastomeric pumps can ensure quality and safety in the home administration of antibiotics, optimizing clinical outcomes through compliance with treatment, guaranteeing safe administration of the drugs due to the pre-established flow that ensures precise dosing, increasing the efficiency of the health system by reducing unnecessary hospitalizations, promoting recovery at home, and improving patient satisfaction by offering a positive experience with constant technical and professional support. Despite the potential use of these devices in Hospital at Home Programs, there is limited evidence of their use in Latin American contexts.

Aim/Objective(s)

To describe the experience with the use of continuous perfusion intravenous antibiotic treatment using elastomeric infusion pumps in patients in the Hospital at Home Program of the HUFSEB in Bogotá, Colombia, using a standardized protocol to reduce the risks and ensure the benefits of its use.

Methods

We conducted a retrospective descriptive study. Firstly, we describe the process of implementing a standardized protocol for the use of elastomeric pumps in the Hospital at Home Program of the HUFSEB, which was developed by an interdisciplinary team and adapted based on the available literature. Secondly, we estimated the number and type of elastomeric pump infusions prepared in the Hospital at Home Program and the number of patients treated from January 2024 to December 2024. Finally, we calculated descriptive statistics for patient demographics, site of infection, responsible microorganism, medication and type of elastomeric infusion, duration of treatment, and key hospital management indicators including avoided days of hospital admission, number of nurse visits to patients' homes and associated costs. We also describe patient satisfaction and safety with this model of care using elastomeric pumps.

Results

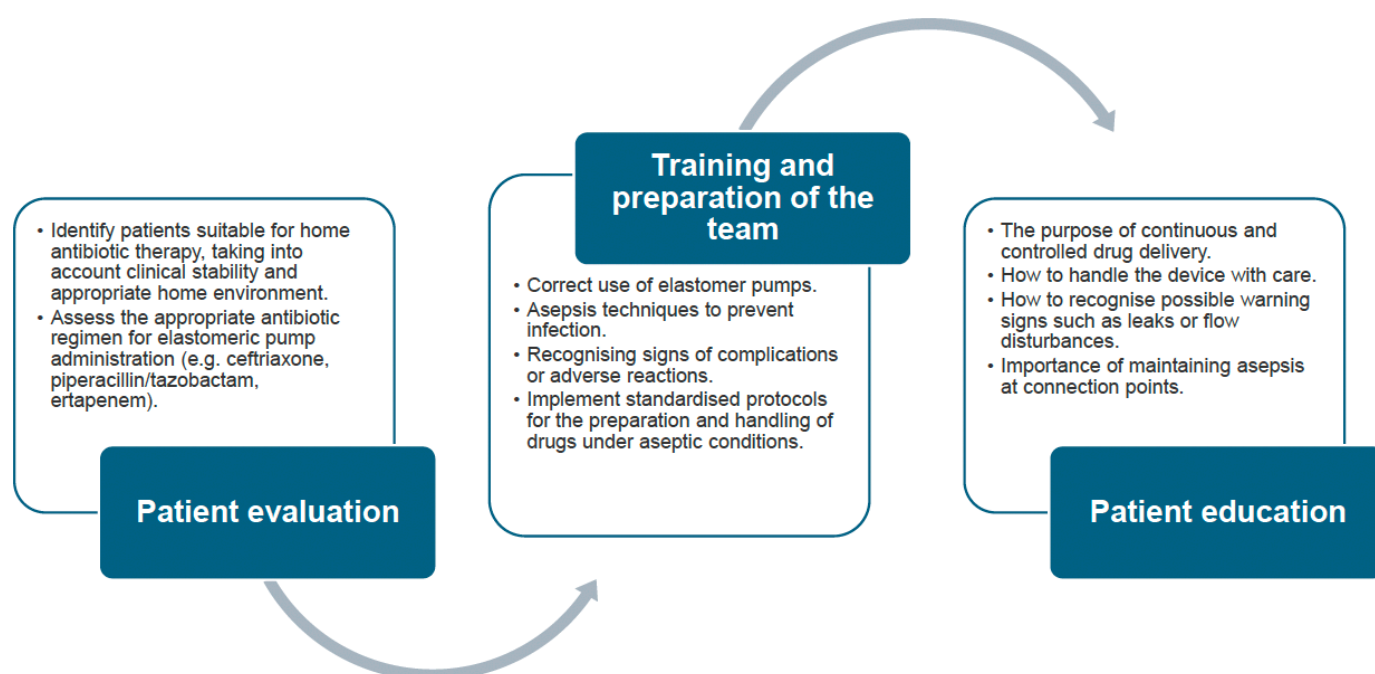
Figure 1 summarizes the standardized protocol that was developed at the Hospital at Home Program of HUFSFB for decreasing risk and ensuring the benefits of the use of elastomeric pumps. Briefly, the process involves three main phases: patient evaluation, training and preparation of the team, and patient education. From January to December 2024, a total of 462 elastomeric pumps were used in the Hospital at Home Program to treat 45 patients with outpatient treatment of parenteral antibiotic therapy for 431 days, thereby avoiding 431 days of hospital admission. The use of these elastomeric pumps also avoided 722 nurse visits to the patients' homes, representing a cost saving of around USD \$52,400 (approximately 164 minimum wages in 2024 in Colombia). Of 45 patients, 60% were male and the mean age was 68 ± 20 years. The mean duration of treatment was 9.5 ± 11 days (min = 2, max = 41). The most commonly used antimicrobials were piperacillin/tazobactam (n = 15 patients), cefepime (n = 10 patients), meropenem (n = 8 patients), cefazoline (n = 5 patients), cefuroxime (n = 3), vancomycin (n = 2), acyclovir (n = 1), which were used to treat different types of infections: respiratory tract, urinary tract, skin and

soft tissue, bacteremia, osteomyelitis, abdominal and other sites. Patient satisfaction was high (98%).

Conclusion

Incorporating elastomeric pumps into Hospital at Home Programs enhances both the quality of patient care and healthcare system efficiency, offering a practical solution for patients requiring long-term intravenous antimicrobials. Our findings suggest that the use of elastomeric pumps will benefit the healthcare system by reducing hospital admissions, and optimizing the resources and associated costs of inpatient hospitalization. It is also an optimal resource for Hospital at Home Programs, allowing for a reduction in the number of daily nurse visits to patients' homes for antimicrobial administration and saving associated costs. At the same time, it has shown several advantages and benefits in promoting good clinical outcomes and patient safety by reducing the risk of overdose and providing comfort and autonomy to patients during treatment at home. The development and implementation of standardized protocols are key to achieving these successful outcomes.

Conflicts of interest related to this abstract: none



L-2003

Implementing Smart Healthcare and HFMEA to Prevent the Wandering Risk of Older Adults with Dementia

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Introduction

According to the 2019 Global Dementia Report by the Alzheimer's Disease International (ADI), it is estimated that there are over 50 million people with dementia worldwide, and this number is expected to grow to 152 million by 2050 – meaning that one person develops dementia every three seconds. Currently, the annual cost associated with dementia care is one trillion USD, and this figure is projected to double by 2030.

People with dementia experience neurocognitive decline, leading to a loss of spatial awareness, judgment, and wandering behaviors, which significantly increases the risk of getting lost. To prevent incidents, family caregivers often adopt strict supervision or restrictive measures, which, while effective in preventing further wandering incidents, contradicts the principles of human rights and dignified aging. Furthermore, such measures increase the burden and anxiety of caregivers, disrupt their personal and professional lives, and deprive individuals with dementia of their mobility autonomy.

Aim/Objective(s)

The purpose of this study is to utilize smart healthcare and proactive risk management methods to effectively manage the risk of wandering among older adults with dementia, thereby enhancing their safety and well-being.

Methods

This study applies the Healthcare Failure Mode and Effects Analysis (HFMEA) as a proactive risk management method. Through questionnaire surveys and group decision-making analysis, we conducted HFMEA risk assessments, identifying:

- 33 potential failure modes
- 46 potential failure causes and failure impact analyses

The high-risk factors were categorized into three main areas based on their Hazard Score (HS):

- HS ≥ 8 or high severity but low occurrence frequency
- Low severity but high occurrence frequency
- Critical outcomes requiring priority intervention.

A decision tree mechanism was employed to determine that 44 failure causes required immediate improvement measures.

Results

Through the improvement strategies implemented in this study, the Hazard Score (HS) was reduced from 342 to 161, achieving a 52.9% improvement rate and a 106.2% achievement rate.

Key outcomes include:

- Eliminating the number of wandering incidents among dementia patients (100% improvement rate, 100% achievement rate)
- Increasing caregivers' correct awareness of wandering prevention from 23% to 90% (statistically significant, $P < .05$)
- Increasing staff awareness from 67% to 100% (statistically significant, $P < .05$)

Additionally, the study implemented advanced technological solutions, including:

- UWB IoT-based smart electronic fence system for preventing wandering
- Nano NXT iris recognition technology
- Community-based strategies, such as engaging local businesses and families in wandering prevention drills, making this the first initiative of its kind in Taiwan

Conclusion

This study demonstrates that integrating smart healthcare and proactive risk management methods can effectively reduce the wandering risk among dementia patients while upholding their dignity and alleviating caregiver burden. A systematic approach with continuous evaluation and improvement enhances safety and provides a better caregiving environment for individuals with dementia.

Conflicts of interest related to this abstract: None

L-2004

Incidence And Risk Prediction Score of Refeeding Syndrome In Hospitalized Patients: A Prospective, Analytical Single Center Study

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Introduction

Predicting refeeding syndrome (RFS) in malnourished hospitalized patients is crucial to prevent potentially fatal complications. RFS, characterized by severe electrolyte shifts, can lead to cardiac arrhythmias, respiratory failure, and neurological damage. Early identification allows for tailored refeeding protocols, minimizing risks. Incorporating predictive models into hospital systems enhances patient safety and resource efficiency. The predictive model developed in this paper can flag individuals high risk to develop RFS upon admission, enabling proactive interventions such as serial monitoring of electrolytes after reinitiation of feeding. This reduces the incidence of RFS,

shortens hospital stays, and lowers healthcare costs. Standardized, data-driven approaches improve consistency in care, ensuring timely and appropriate management, particularly in resource-limited settings like public hospitals serving vulnerable populations. Ultimately, this predictive model can empower clinicians to deliver personalized, preventative care, optimizing patient outcomes.

Aim/Objective(s)

Despite the seemingly expected occurrence of RFS among hospitalized, malnourished, and critically ill patients, the circumstances under which RFS occurs, the clinical manifestations and the management of these patients are not clear. There is also very little high-quality literature available in the incidence and prevalence of RFS and clinicians caring for vulnerable groups who might require nutritional support are unable to recognize the risk of RFS. The authors aim to determine the incidence of RFS in the local institution and also aim to determine the patient's characteristics, feeding and laboratory data, electrolyte derangements and hospital outcome of patients with refeeding syndrome. Moreover, this paper aims to aid clinicians in identifying the possibility of RFS using available and practical clinical parameters.

Methods

In this prospective, analytical study conducted between October 2022 to December 2023, 217 patients were evaluated for risk of developing RFS. Malnutrition assessment was conducted using Nutrition Risk Screening 2002 (NRS-2002) through bedside patient interview. The criteria for RFS were based on the recommendations of the American Society for Parenteral and Enteral Nutrition (ASPEN). Data on electrolyte levels and daily caloric and protein intake were taken within five days post-resumption of feeding. Significant risk factors (Table 1) in predicting RFS were analyzed then subjected to binary logistic regression to ascertain the effect size.

Table 1. Binary Logistic Regression Results of Predicting Refeeding Syndrome (n=70)

Risk Factors	Coefficient	Effect	Odds Ratio	p-value	Description
Total Calories	-0.002	Negative Effect	1.00	0.07	NS
Total Protein	-0.04	Negative Effect	1.00	0.007*	S
Serum Phosphorus	-2317	Negative Effect	0.00	0.009*	S
Serum Magnesium	-1.76	Negative Effect	0.17	0.05*	S
Serum Potassium	-1.98	Negative Effect	0.15	0.005*	S
Serum Albumin	-1.75	Negative Effect	0.17	0.007*	S

S=Significant, NS=Not Significant, *Significant at p-value < 0.05
Event: Refeeding Syndrome

A predictive model (Figure 1) was then developed to estimate the probability of developing refeeding syndrome based on identified risk factors. The predictive model was validated by calculating the area under the receiving operating characteristics curve (AUROC) to evaluate the discriminatory power of the model.

Predictive Model for Refeeding Syndrome

Refeeding Syndrome (Yes) = $-1.76 * \text{Serum Magnesium} - 1.98 * \text{Serum Potassium} - 0.04 * \text{Total Protein Delivered} - 2.317 * \text{Serum Phosphorus} - 1.75 * \text{Serum Albumin} + \text{Error}$

Results

Among 217 patients, 70 (32%) were at risk for malnutrition and RFS. RFS occurred in 14 patients (20%). Patients with RFS were older (54.71 ± 18.20). The total protein (g/day) and total caloric intake of patients who had RFS were significantly lower ($41.25\text{g/day} \pm 12.88$ and $884.64 \text{ kcal/day} \pm 559.25$) than those

who did not develop RFS (51.20 g/day $\pm$ 11.02 and 1275.59 kcal/day $\pm$ 295.77). Serum albumin (2.59 $\pm$ 0.27), phosphorus (1.66 $\pm$ 0.29), magnesium (1.96 $\pm$ 0.36) and potassium (3.13 $\pm$ 0.43) were likewise lower among the RFS group. Higher incidence of arrhythmia (50% vs 21%), shock (64% vs 32%), ventilatory support (71% vs 23%) and mortality (64.29% vs 21.43%) was noted in subjects who developed RFS. Predictors of RFS include lower magnesium and potassium levels, lower total protein delivered and lower serum albumin level. Using the predictive model, the AUROC recorded an overall accuracy rate of 77.6% which is considered an acceptable discriminating power to distinguish patients with likelihood to develop RFS.

Conclusion

The incidence of RFS among malnourished patients in this institution is 20%. Patients with RFS have a higher risk of requiring vasopressors and mechanical ventilatory support, developing arrhythmia, and progressing to death. Total protein delivered, serum magnesium, serum potassium, serum phosphorus and serum albumin are significant factors that can predict the risk of developing RFS with acceptable accuracy, sensitivity and specificity.

Conflicts of interest related to this abstract: None

L-2005

Psychedelic-assisted therapy for palliative care within a home treatment setting: A Swiss based case report

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Introduction

Similar to other form of psychotherapy like Mindfulness approaches, Psychedelic Assisted Therapy (PAT) is a new therapeutic option which capitalise on the induction of a non ordinary state of consciousness through the use of a psychedelic substance such as psilocybin or LSD. In preliminary modern international research, PAT has been shown to be effective in a variety of mental health conditions. In particular Switzerland is

central for the development of this field being the first country which have allowed since 2014 an exceptional medical use of these schedule 1 substances. In this context, the Geneva University Hospital (HUG) is the first hospital in Switzerland providing a public program for PAT to the general population since 4 years (<https://www.hug.ch/addictologie/psychotherapie-assistee-par-psychedeliques>), having treated so far more than 350 patients. Additionally, our group started a pre-graduate course at University of Geneva on PAT: <https://pgc.unige.ch/main/teachings/details/2023-2230181?year=2023>

Aim/Objective(s)

The presentation describes the Geneva Model which we developed for PAT, through its different phases of preparation, dosing session, integration and amplification. Even though the administration of the psychedelic substance is always made within the hospital setting, we are attentive to try to personalize as best as we can the treatment. We present a case report for a PAT therapy intervention with LSD which we provided to a patient within a home treatment setting design. In particular, we decided to personalize the treatment given the terminal condition and fragility of the patient.

Methods

A PAT treatment with LSD was administered in its different phases at the residency of a patient with terminal throat cancer.

Results

We will discuss the feasibility of a PAT home treatment setting, considering safety aspects and benefits for particularly fragile patients receiving palliative care treatments. We will discuss the reaction of the patient and his subjective report and benefits from the experience.

Conclusion

PAT is a form of psychotherapy which can be flexibly adapted to different context of use. In particular, we describe the feasibility of PAT with LSD in a home-treatment setting for a terminally ill patient. This case report shows the potential and safety of PAT in home treatment for palliative care.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: CREATING SAFER SYSTEMS: BREAKING BARRIERS TO INCIDENT REPORTING

L-2006

Abu Dhabi Patient Safety: Empowering Healthcare Excellence

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Introduction

Healthcare facilities in Abu Dhabi face challenges with inconsistent incident reporting frameworks, stemming from a mix of manual and automated systems with varied categorization methods. This inconsistency hampers data collection, performance comparison, trend analysis, and knowledge sharing among providers. To address these issues, the goal is to implement a standardized, automated incident classification system across all hospitals by Q1 2025, centralized under the Department of Health (DoH). This initiative aims to streamline processes, reduce variability, enhance patient safety and care

quality, and promote a culture of continuous improvement. Given that over 3 million deaths globally result from unsafe care and that 50% of such incidents are preventable, investing in a reliable reporting system is crucial for better patient outcomes and significant financial savings. High Reliability healthcare systems emphasize proactive incident reporting, fostering a focus on systemic issue resolution rather than reactive measures.

Aim/Objective(s)

The project aims to shift the current healthcare system's incident reporting system from a decentralized to a centralized one under the Department of Health. Centralizing the incident reporting system can enhance healthcare system efficiency, facilitate better coordination, data analysis, decision-making at the DOH level, and streamline the reporting process.

1. Increase Incident Reporting Rates: Develop strategies to encourage healthcare providers to report safety incidents, addressing the issue of under-reporting.
2. Enhance Visibility: Implement real-time monitoring tools to provide comprehensive visibility of safety conditions within healthcare facilities.

3. Centralize Data Management: Create a unified platform for reporting and analyzing safety incidents, reducing data fragmentation and improving accessibility.
4. Proactive Safety Measures: Shift from a reactive to a proactive approach by establishing preventive protocols and safety training programs for healthcare staff.
5. Stakeholder Engagement: Foster collaboration among healthcare providers to share insights, best practices, and lessons learned related to patient safety incidents.

Methods

The methodology for implementing a standardized incident reporting system involves several key steps. First, a workshop will be conducted with healthcare provider representatives to develop a unified patient safety incident taxonomy. Following this, the Abu Dhabi Patient Safety Taxonomy will be published to guide reporting practices. A circular will mandate the use of an electronic incident reporting system and a mortality module across all facilities. Additionally, a live dashboard will be created to present over 40 key performance indicators (KPIs) related to patient safety. The ultimate goal is to develop an automated incident classification system by the end of Q1 2025, centralized under the Department of Health (DoH). This approach aims to streamline processes, enhance patient safety, and foster a culture of continuous improvement within Abu Dhabi's healthcare sector.

Results

For the first time in the history of the healthcare in UAE, DoH developed a comprehensive centralized safety reporting system that reviews all types of healthcare related incidents. Major milestones include:

- Global benchmarking with other healthcare systems (March 2024)
- Patient safety taskforce (April 2024)
- Abu Dhabi Patient Safety Taxonomy (Sep 2024)
- Infant & Adult Mortality modules (Sep 2024)
- Integration with all electronic healthcare systems in hospitals (Feb 2025)
- Live dashboard with >40 KPIs (Feb 2025)
- DoH Patient safety awards (March 2025)

Conclusion

In conclusion, the Department of Health (DoH) in Abu Dhabi is pioneering a transformative approach to enhance patient safety by centralizing the incident reporting system. This initiative addresses the pressing issue of under-reporting incidents, aiming to improve data visibility and foster proactive safety measures across healthcare facilities. By developing a unified platform for incident management and implementing real-time monitoring tools, the DoH seeks to create a culture of continuous improvement and learning. With significant milestones set for 2024 and 2025, including the Abu Dhabi Patient Safety Taxonomy and a comprehensive live dashboard, this project promises to elevate healthcare standards, reduce preventable harm, and ultimately lead to better patient outcomes while ensuring efficient use of resources within the Emirate's healthcare system.

Conflicts of interest related to this abstract: None

L-2007

Factors Influencing the Under-reporting of Incident Reports: A Study at Royal Hospital, Oman

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Royal Hospital, Oman

Introduction

Incident reporting is a cornerstone of patient safety, allowing healthcare organizations to identify risks and implement corrective actions (World Health Organization, 2019). However, underreporting remains a persistent issue globally, with studies indicating that up to 50% of adverse events go unreported (Lawton & Parker, 2020). Factors such as fear of retribution and lack of feedback (Farag et al., 2021; Al Mandhari et al., 2020). In the Middle Eastern context, including Oman, cultural norms and organizational dynamics play a crucial role in shaping incident reporting behavior. At Royal Hospital, the incident reporting system serves as a key component of the hospital's quality management framework. Despite this, there is anecdotal evidence and internal data suggesting that many incidents remain unreported, limiting the hospital's ability to proactively address safety risks. This study seeks to explore the factors contributing to underreporting and provide actionable insights to strengthen patient safety initiatives at Royal Hospital.

Aim/Objective(s)

This study explores the key factors influencing the underreporting of incidents at Royal Hospital, Oman. The primary objective of this study is to investigate the factors influencing the underreporting of incidents at Royal Hospital in Oman. The specific objectives are:

1. To identify and analyze the personal, organizational, and systemic barriers contributing to the underreporting of incidents by healthcare workers at Royal Hospital.
2. To assess healthcare professionals' perceptions and experiences with the current incident reporting system.
3. To examine the influence of organizational culture, leadership, and feedback mechanisms on incident reporting behavior.
4. To propose evidence-based interventions aimed at simplifying the reporting process, reducing fear of blame, and fostering a culture of safety.
5. To highlight the potential impact of improved incident reporting on patient safety outcomes and overall quality of care at Royal Hospital.

Methods

A mixed-methods research design, between quantitative and qualitative approaches to explore the factors influencing the underreporting of incident reports in Royal Hospital, Oman. The research utilizes both survey questionnaires for the quantitative data and focus group discussions for qualitative data collection. The study was conducted at Royal Hospital, a major healthcare facility in Oman, serving as a central hub for patient care. The target population consists of healthcare workers (physicians, nurses, allied health staff) at Royal Hospital. These groups were selected due to their direct involvement in patient care and the likelihood of encountering incidents in their daily practice. A total of 200 healthcare workers were invited to participate in the survey, and a subset of 15 participants were selected for focus group discussions. The quantitative data from the surveys were analyzed using SPSS and descriptive statistics were used to summarize the data on incident reporting behavior and perceived barriers.

Results

A total of 200 healthcare workers from various departments at Royal Hospital participated in the survey. The respondents included physicians (25%), nurses (50%), and allied health staff (25%). However, 35% of participants admitted to never reporting incidents, primarily due to the perception that the incidents were not significant enough to report or that they did not believe it would lead to any improvements. The survey revealed several key barriers to incident reporting: 55% of respondents cited fear of punishment. 48% of participants indicated that time constraints were a significant barrier. 40% of respondents stated that a lack of feedback or follow-up on reported incidents discouraged them from reporting. 30% of participants mentioned a lack of knowledge regarding what constitutes a reportable incident. Focus group discussions with healthcare workers revealed deeper insights into the barriers identified in the survey. Participants discussed the importance of a non-punitive culture and emphasized that a fear of blame significantly hindered incident reporting and leadership support and clear communication channels were crucial for improving reporting practices. A recurring theme was the need for improved training on the reporting process and timely feedback to close the loop on incident reports.

Conclusion

This study has identified key barriers to incident reporting at Royal Hospital, including fear of punitive action, time constraints, lack of feedback, and insufficient awareness. Addressing these barriers will require a multifaceted approach, focusing on creating a non-punitive culture, improving training and awareness, streamlining the reporting process, providing timely feedback, and ensuring leadership support. By implementing these strategies, Royal Hospital can foster a culture of safety where healthcare workers feel empowered to report incidents, ultimately improving patient safety outcomes. Furthermore, simplifying reporting systems, incident reporting systems should be streamlined and user-friendly. Incorporating AI-driven tools, such as natural language processing (NLP) for automated categorization, could significantly reduce the burden on healthcare workers and increase report accuracy. Providing regular feedback are essential for improving reporting rates and actions taken can reinforce the value of reporting and demonstrate that reports lead to meaningful changes in practice and ultimately enhancing patient safety. Underreporting of incidents remains a significant challenge in healthcare. By addressing organizational, psychological, and systemic barriers, hospitals can encourage more comprehensive and accurate incident reporting. Further research is needed to assess the effectiveness of the recommended interventions and to explore incident reporting practices in other healthcare settings in Royal Hospital Oman.

Conflicts of interest related to this abstract: none

L-2008

Implementation of the comprehensive unit-based safety program (CUSP) via the departmental quality improvement and patient safety expert training program

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Introduction

Our center is large and complex, providing diverse treatments with specialized departments; therefore, PI activities tailored to the characteristics of each department are necessary. The PI team cannot manage all departmental PI activities, and sustained improvement beyond annual PI projects is essential.

Since 2021, repeated sentinel events have occurred due to non-compliance with basic principles. Departments operate QI committees (labs), Patient Safety Nurses (PSN; nursing), CPI Professor in charge (physicians), and Patient Safety Managers (PSM; administrators); however, systematic training and comprehensive performance management were lacking. A single evaluation unit struggles to continuously assess and provide statistically significant feedback on patient safety indicators (IPSG), such as patient identification and Time-Out. Thus, in 2023, we implemented the Comprehensive Unit-based Safety Program (CUSP) to develop department-based quality improvement and patient safety expert (QPS Hero) and established a liaison system with the PI team to drive department-led improvement initiatives.

Aim/Objective(s)

The key roles of QPS Hero are as follows:

1. Expert – Identifying issues based on specialized knowledge, enhancing teamwork, and leading initiatives to improve patient safety culture.
2. Educator – Planning quality improvement and patient safety training for staff and sharing knowledge.
3. Liaison – Collecting staff feedback and coordinating with the PI team to secure appropriate support.

For effectiveness evaluation, we applied the Kirkpatrick Model of Training Evaluation, a four-level outcome-based assessment framework:

- Level 1: Reaction – Post-training satisfaction score of ≥ 4.0 (Likert 5-point scale)
- Level 2: Learning – Improvement in the pre- and post-training test scores measuring goal achievement
- Level 3: Behavior – Application of learned content in practice 3 months post-training, with a Likert scale score of ≥ 4.0
- Level 4: Results – Increased patient safety near-miss reporting, improved accurate patient identification and time-out compliance, and reduced fall-related injury reporting rates after program implementation

Methods

From 2023 to 2024, the QPS Hero program was conducted as follows:

1. Recruitment & Launch: The QPS Hero program expanded from 112 participants in 2023 to 138 in 2024. A launch ceremony in March included activity presentations and awarding of certificates and badges.
2. Training: Basic training covered patient safety, PI programs, and outcomes management, with advanced sessions on Root Cause Analysis (RCA) and Plan-Do-Check-Act (PDCA) workshops.
3. Topic Selection & Analysis: Departments selected topics like patient identification, time-out, and falls, and conducted problem finding and cause analysis.
4. Implementation: A standardized QPS Hero Toolkit was developed, supporting PDCA cycle application through monitoring checklists and reports.
5. Seminar: Bi-monthly seminars provided case-sharing, group coaching, and discussions.
6. Liaison System: Each QPS Hero was assigned a PI team coach and engaged in an online community.
7. Incentives:

Incentives included personnel file records, overtime recognition, annual funding, and awards for top projects.

Results

The results of each stage's indicators using an outcome-based four-level training evaluation model are as follows:

- Level 1: Training Satisfaction – The basic course received 4.8/5 overall, with content understanding and lecture quality scoring 4.7+. The advanced course had 4.9: satisfaction, 4.6: content understanding, and 4.8+ for practical application
 - Level 2: Learning Achievement – Pre- and post-tests (10 items) on adverse events, QI methods, and indicators showed a significant increase from 55.8 to 91.6 ($p < 0.001$)
 - Level 3: Workplace Application – Scored 4.1+ on a 5-point scale. Manager support (4.5), knowledge retention (4.4), problem-solving (4.3), and training feasibility (4.2) improved
 - Level 4: Performance Evaluation
1. Proportion of near-miss reports among all patient safety cases in the hospital increased from 22.1% (2022) to 34.2% (2024); This is attributed to improved awareness of patient safety and a broader perspective on identifying risks.
 2. Patient ID compliance increased from 85.3% (2022) to 94.8% (2024); The laboratory departments, major participant, increased from 84.9% to 96.9%.
 3. Pre-procedure Time-Out compliance remained $\geq 95\%$; The accurate surgical time-out rate before skin incision was 100%.
 4. Reporting rate of inpatient fall-related injuries dropped by 10.0% (2024); The rate of reported falls among near misses increased from 3.8% (2022) to 5.6% (2024).

Conclusion

Department-led quality improvement and patient safety initiatives applying the CUSP concept have proven to be effective in enhancing training outcomes and overall hospital quality indicators. For key patient-safety metrics, departments must independently analyze root causes, conduct continuous monitoring, and implement improvements to contribute to long-term sustainability. As of 2024, the hospital continues to implement the QPS Hero program, maintaining IPSP key indicators at high levels beyond target thresholds. Departments consistently apply the PDCA cycle, with QPS Heroes acting as team coaches and experts in PI activities. In 2025, training for Patient Safety Managers (PSM) and QPS Hero participation in improvement initiatives will be increased to strengthen middle management support and engagement. Regular seminars will increase group coaching sessions, fostering benchmarking across departments. Moving forward, practical, hands-on advanced training will be systematized, and physician involvement will be enhanced to further enhance patient safety culture and quality indicators.

Conflicts of interest related to this abstract: None

L-2009

Non-physical harm from disrespect: Using a systems approach for analysis

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Introduction

Patients and families can suffer from non-physical harm in their care, including emotional, psychological, socio-behavioral, and financial impacts. Problematic interactions between patients/families and health care professionals/organizations, often described as “disrespect”, can contribute. These concepts remain unfamiliar to many organizations, with health systems predominantly addressing physical harm and injury to patients, despite growing literature supporting applying the same level

of rigor to both non-physical and physical harm events. Improving patient safety necessitates embracing a broadened perspective that includes non-physical harm from disrespect.

Aim/Objective(s)

The aim of this research was to characterize and understand the prevalence of patient and family experiences of non-physical harm and disrespect occurring across eight hospitals within a single health system through application of the Beth Israel Deaconess Medical Center (BIDMC) Framework for Disrespect (attached document).

Methods

All complaints and grievances generated by patients/families logged in the organization’s incident reporting portal during a one-year timeframe were used to complete this analysis; there were 1,037 total cases within this timeframe. The researcher used the BIDMC Prioritization Schema (attached) to evaluate how many high, moderate, and low risk factors were applicable in each case as criteria for inclusion/exclusion determination. After the researcher conducted the inclusion/exclusion exercise using the BIDMC Prioritization Schema, 352 total cases met inclusion criteria and were subsequently analyzed using BIDMC’s Framework for Disrespect. Using information available in the incident reporting portal, characterization of each case through incident analysis was completed; each case was coded across all five components within the framework: care processes, health care professional and organizational behaviors, contributing factors, modifying factors, and potential consequences of disrespect across micro and macro levels. The attached document outlines this process in greater detail.

Results

352 (34%) of complaints/grievances met inclusion criteria for analysis and revealed patients/families predominantly felt non-physical harm from disrespect related to processes around their treatment (40%) and discussions with providers (36%). The three most prevalent professional/organizational behaviors included patients and families feeling dismissed or disregarded (30%), experiencing behavior that was uncaring; indifferent; impersonal (28%), and inattentive; ignoring; neglecting; or abandoning (24%). The three most prevalent patient/family consequences to experiencing disrespect were negative emotions and feelings (90%), negative ratings of care (43%), and negative impacts on mental and physical health (39%). The leading professional-related consequence of the disrespectful harm event resulted in antagonistic relationships with patients (27%). Lastly, damage to reputation (10%) and patient attrition (8%) were the two most prevalent organization-related consequences of the disrespectful occurrence.

Conclusion

Non-physical harm from disrespect is prevalent and consequential, underscoring the value of embracing a holistic view of safety to include both physical and non-physical harm when shaping patient safety solutions. Characterizing and quantifying episodes of disrespect through use of the BIDMC Framework for Disrespect provides a systematic approach to capture, characterize, and learn from patient and family experiences of disrespect to promote improvement. The use of this framework encourages a systems lens to learn from harm events, emphasizing mitigation and prevention of future non-physical harm.

Conflicts of interest related to this abstract: none

L-2010**Optimizing Traumatic Brain Injury Care Through Intelligent Systems and Multidisciplinary Collaboration**

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Introduction

The incidence of traumatic brain injury (TBI) is exceptionally high, with one TBI case occurring every hour in Taiwan. Research in the U.S. reveals approximately 340,000 severe TBI cases annually, leading to a 15% mortality rate. Clinical assessment of TBI is difficult due to the influence of patients' physiology and lifestyles, resulting in profound impacts on patients, families, and society. Our institution has observed a gradual increase in TBI patients, yet the lack of integrated and effective communication across teams hinders the overall effectiveness of patient care. Care indicators, such as the in-hospital mortality rates for TBI patients from January to March 2023, fall below those of peer institutions.

Aim/Objective(s)

We have developed a comprehensive case management care model, aiming to enhance the emergency handling and care capabilities of patients, ultimately reducing readmissions and mortality rates.

Methods**1. Aspect of Intelligent System**

(1) Enhancement of Case Management System through Infrastructure: The system automatically collects diverse records of medical interventions by healthcare professionals. This ensures real-time access to patient information for team members, facilitating instant two-way communication.

2. Aspect of Process

(1) When the TBI team is activated, the system aids in pre-filling orders for "GCS Q1H" and "Discharge Education." It also recommends physicians to arrange for CT scans.

(2) Revision of patient care mechanisms: The TBI team will contact with patient in 7 days, providing relevant educational and care information.

(3) Providing follow-up care for discharged patients and connecting them with community healthcare services.

3. Aspect of Team Member

Designing specialized training programs for TBI, tailored to the professional needs of physicians, nurses, nutritionists, rehabilitation therapists, and pharmacists. Monthly case discussion sessions are organized, focusing on interdisciplinary teams and challenging critical cases.

Results

1. The inpatient mortality rate for TBI patients is 4.6%, marking an 18.5% decrease.
2. Only one revisit within 72 hours due to TBI-related issues occurred among emergency discharges.
3. The proportions of TBI patients returning to the operating room, returning to the intensive care unit, and being readmitted within 30 days post-discharge all remained at 0%.
4. Within two hours of TBI patients arriving at the hospital, the percentage of GCS score assessments recorded every 60 minutes is 96.8%, reflecting a 49.8% improvement.
5. Within the first 7 days of injury, TBI inpatients receiving basal caloric replacement via intravenous or enteral routes have a ratio of 93.8%, showing a 56.4% improvement.
6. 100% of TBI patients underwent rehabilitation team assessment within two working days before transferring out of the intensive care unit, indicating a 28.6% improvement.

7. Early PTS high-risk group patients receiving antiepileptic drugs within 7 days post-injury have a ratio of 93.8%, a 6.4% increase.

Conclusion

Through the intelligent system, healthcare providers can provide timely medical care services, and integrate comprehensive case management mechanisms. Coupled with post-discharge follow-up education, this approach can effectively prevent TBI patients from missing the golden treatment window due to subtle initial symptoms, optimizing their quality of life in the prognosis. The establishment of the disease team and the implementation of automation can extend horizontally to other disease care teams within the hospital, become to a medical center relied upon by the public.

Conflicts of interest related to this abstract: None

L-2011**Putting patients at risk: The effect of healthcare provider burnout on patient outcomes in the operating room**

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Introduction

This review aimed to comprehensively explore the prevalence of burnout among healthcare professionals in the operating room (OR) and its consequential impact on patient safety and care quality.

Aim/Objective(s)

We sought to identify key factors contributing to burnout, particularly among surgeons, anesthesiologists, and OR nurses. Furthermore, the link between burnout and adverse patient outcomes, focusing on communication breakdowns, operational inefficiencies, and decision-making impairments was investigated.

Methods

A focused narrative review was conducted, utilizing PubMed, CINAHL, Semantic Scholar, WorldCat, Cochrane Library, and ClinicalTrials.gov. Full-text primary literature published in English between 2018 and 2024 was included. Studies specifically addressing burnout in the OR and its effects on patient safety and care quality were selected. Data extraction involved analyzing prevalence rates, stress factors, and impacts on patient outcomes. Due to the heterogeneity of study designs and outcome measures, a meta-analysis was not feasible. The narrative synthesis focused on identifying broad trends and qualitative insights, capturing a diverse range of OR professionals and burnout-related factors.

Results

A total of 61 studies across 23 countries and in seven OR populations were included. Burnout was found to be highly prevalent among OR healthcare professionals, with reported rates ranging from 10% to 83%, peaking during the COVID-19 pandemic. Surgeons, anesthesiologists, and OR nurses exhibited emotional exhaustion and depersonalization. Burnout was linked to communication breakdowns, operational inefficiencies, and impaired decision-making, which collectively undermine patient outcomes. Studies revealed that burnout contributes to poor decision-making, weakened teamwork, and higher staff turnover. The COVID-19 pandemic intensified these issues, with increased workloads and psychological disorders. Inefficiencies in OR scheduling and prolonged turnover times

were also associated with burnout, highlighting the need for systemic improvements.

Conclusion

Burnout among OR healthcare professionals poses a significant threat to both staff well-being and patient safety, exacerbated by the COVID-19 pandemic. Addressing this requires a multi-faceted approach, including enhanced training, workload optimization, and robust support systems. Implementing context-specific interventions, such as ergonomic improvements, team-based simulation training, and digital tools, can improve staff resilience and enhance patient safety. Fostering a culture

of psychological safety, where staff feel supported and comfortable raising concerns, is essential. Strategies such as reducing workload, limiting duty hours, and providing flexible schedules can improve job satisfaction. Investing in mental and emotional well-being, alongside tailored surgical solutions, is crucial for sustaining high-quality healthcare and ensuring optimal care delivery while maintaining staff health.

Conflicts of interest related to this abstract: Judith Hargreaves is an employee of Mölnlycke. Juan Antonio Hueto Madrid and Beata Buchelt declare no competing interests.

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: DRIVING SAFETY AND SUSTAINABILITY THROUGH EVIDENCE-BASED CLINICAL INNOVATION

L-2012

Enhancing Patient Safety: Recognition of Post-Anesthesia Delirium Risk Factors through Cross-Database Analysis

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Introduction

Delirium is among the most common acute mental disorders observed in postoperative patients, particularly in the elderly demographic. Our aim was to determine the incidence, risk factors, and clinical features of postoperative delirium in older patients utilizing a validated surgical database.

Aim/Objective(s)

Our study aimed to define the incidence, risk factors, and clinical characteristics of postoperative delirium in elderly patients utilizing a validated surgical database.

Methods

Since October 2022, our hospital has adopted the NSQIP framework for prospective postoperative assessment. We enrolled 1282 elderly patients (age over 75) from October 2020 to April 2023 and recruited an additional 1316 elderly patients (age over 75) from the NSQIP database in 2021. Clinical characteristics, laboratory data, and delirium status were assessed.

Results

A total of 65 patients (5.07%) in our hospital and 147 patients (11.17%) in the NSQIP database experienced delirium episodes following surgery. Statistically significant differences in age, EGFR, pre-operative serum albumin, and ASA were observed between the two datasets. Analysis within our institution revealed that increasing age, comorbid chronic obstructive pulmonary disease, preoperative serum albumin concentration, white blood cell count, and ASA class were significantly associated with delirium.

Conclusion

This study identified several risk factors associated with the development of postoperative delirium in older patients. Psychiatrists can utilize this data for risk stratification and to provide recommendations during consultations.

Conflicts of interest related to this abstract: None

L-2013

Improving outcomes in orthogeriatric rehabilitation patients through a quality indicator driven program: a retrospective cohort study.

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Introduction

Risk of falls, pressure ulcers and pain impact functional outcomes in ortho-geriatric rehabilitation programs, that aims to restore functionality of elderly patients with orthopedic problems.

Aim/Objective(s)

To assess the impact of a quality management through clinical indicators' driven program on the management of pain, pressure ulcers and falls prevention, aiming at carrying feedback to interprofessional team in a non-punitive manner, with implementation of improvement actions directly proposed by the caring teams.

Methods

6549 patients admitted in an orthogeriatric unit for 6 years were retrospectively analyzed for five quality of care indicators: systemic detection of risk of falls, rate of falls, systematic detection of pressure ulcer risk at admission, systematic detection and monitoring of pain, and functional recovery. Improvement actions proposed by the interprofessional team during monthly feedback meetings have also been analyzed.

Results

The number of Stratify scales for risk of falls significantly increased since the indicator was introduced ($p < .001$). Better detected, the falls rate remains controlled and stabilized ($p = 0.62$) in a satisfying manner with the implementation of preventive measures introduced systematically after risk detection. Very high level of detection of pressure ulcer risk at admission (Braden scale) over the years and without significant variation ($p = 0.64$; r^2 14%) has been reached. Pain detection rate at admission and during the stay has improved significantly ($p < .001$). The percentage of variance of these parameters explained by the method were 70.4 and 70.5% respectively. Severe pain reevaluation also shows a significant improvement ($p < .001$), with a percentage of variance of 70.6%. With more than

a dozen participants per session, new improvement measures were proposed at each feedback meeting, with a reminder of the previous ones that seemed relevant regarding the results of the indicator.

Conclusion

Our retrospective cohort study illustrates how a quality management through clinical indicators' driven program can contribute to better assess and improve significant risks associated to negative outcomes for patients in orthogeriatric rehabilitation program.

Conflicts of interest related to this abstract: None

L-2014

Revolutionizing Medication Access: The Impact of Drive-Thru Robotic Pharmacy in a Tertiary Care Public Sector Hospital

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Introduction

In response to the growing need for patient convenience and to reduce congestion within Fujairah Hospital, the largest tertiary care facility on the east coast of the UAE, we launched the first drive-thru Robotic pharmacy service in the country. This new initiative is designed to improve accessibility to medications for our patients, ensuring they can receive their prescriptions with minimal hassle. By adopting this modern approach, we are aligning with global trends in healthcare optimization and prioritizing patient safety and medication adherence. A comprehensive multidisciplinary strategy was employed in the design and implementation of the Drive-Thru Pharmacy, ensuring collaboration among various stakeholders to incorporate diverse expert insights. This initiative aimed to optimize the patient experience by harnessing technology, refining operational workflows, and integrating essential patient feedback.

Aim/Objective(s)

The main objective of this project was to create a streamlined, patient-centered model for medication dispensing, ensuring timely access while reducing waiting times and minimizing exposure to infectious diseases, particularly in the post-pandemic context.

Methods

The process included the creation of a designated drive-thru lane with a secure robotic dispensing counter to enhance both convenience and safety, allowing patients to access their medications efficiently while remaining in their vehicles. Integration with the hospital's electronic prescription system improved the prescription fulfillment process by enabling real-time updates and tracking of prescriptions, significantly reducing wait times and minimizing errors associated with manual processing. A comprehensive staff training regimen was established to familiarize pharmacy personnel with the new operational workflow, including critical safety protocols, effective patient communication techniques, and specialized methods for managing prescriptions within the drive-thru context. The rollout of the Drive-Thru Robotic Pharmacy was executed in phases, starting with a pilot program to identify potential challenges and opportunities for enhancement. Continuous feedback from patients and staff was solicited during this phase, and iterative adjustments were made based on this data to align the service with user expectations.

Results

Although the project was implemented in 2022, there were significant challenges in technical issues, training of staff, quality assurance, patient education and acceptance across the patient groups that included elderly and special needs. Until December 2023, we had 35 medications dispensed to 12 patients. However, there was a dramatic rise in 2024, with 285 medications dispensed to 101 patients, indicating significant growth in both the number of medications dispensed and the number of patients served over the three-year period. In 2025, a survey of the drive-thru robotic pharmacy revealed that the majority of respondents were very satisfied, with 65 (92%) expressing this sentiment. Additionally, 2 respondents were satisfied, 2 were neutral, 1 was dissatisfied, and 1 was very dissatisfied, indicating a generally high level of satisfaction with the service. Our Drive-Thru Pharmacy service takes less than one minute to complete, significantly reducing physical interactions between patients and staff, thereby lowering the potential risk of infections. This streamlined process has improved the accuracy of medication dispensing and decreased the workload at the out-patient pharmacy counters.

Conclusion

The Drive-Thru Robotic Pharmacy has demonstrated significant benefits in accessibility, patient satisfaction, and operational efficiency. By allowing patients to pick up their medications without leaving their vehicles, it has greatly improved convenience, especially for those with mobility issues or time constraints. This innovative model streamlines the medication distribution process, enhances the overall patient experience by reducing wait times, and provides a sense of privacy. Our success serves as a blueprint for other healthcare institutions aiming to modernize their medication dispensing practices while emphasizing patient-centered care. The ability to receive medications quickly and efficiently contributes to higher patient satisfaction and adherence to prescribed treatment regimens. Looking ahead, we plan to further enhance the capabilities of the Drive-Thru Robotic Pharmacy through advanced technologies and AI-driven predictive analytics. These improvements will optimize inventory management, streamline patient flow, reduce stock outs and overstock situations, and ensure that patients receive their medications promptly and reliably.

Conflicts of interest related to this abstract: None

L-2015

The changing architecture of hospital pharmacy in England for the future.

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Introduction

Hospital pharmacy services and practice in England has largely remained traditional, and on a slow evolutionary journey. However, the increasing availability of advanced technologies has the potential to propel it to a futuristic state of improved medicines access and care models for patients, including efficient workflows for staff. For the financial year 22/23, hospitals in England spent approximately £10 billion on medicines and medical devices, the majority of which would flow through pharmacy departments, with pharmacy teams responsible for their safe handling and use. Investment in the infrastructure underpinning hospital pharmacy services and medicines management has not kept pace with the changing cost and complexity of medicines, or the day-to-day operational challenges of the healthcare system. There is tremendous opportunity to harness innovation at scale to redesign the hospital pharmacy system

for the future, by connecting the components of physical architecture, digital infrastructure, and clinical practice with changing patient needs.

Aim/Objective(s)

Key project objectives include:

- Determine the core components of a future hospital pharmacy system using a systems mapping tool.
- Understand the views of patients and pharmacy professionals on a hospital pharmacy of the future.
- Identify the key combination of technologies and digital capabilities for transforming a hospital pharmacy system.
- Identify a range of possible futures for hospital pharmacy, and determine and select the optimal model which integrates the physical architecture and digital infrastructure with new ways of working.
- Develop a pharmacy department design brief based on outputs from the activities above.

Methods

We used the Design Council's double diamond framework iteratively to explore the existing day-to-day challenges of hospital pharmacy services and develop a range of possible futures that incorporates new workflow solutions. Design research methods including journey mapping, patient interviews, and focused ethnography were also employed to identify specific bottlenecks and leverage points for intervention and improvement. Participants were recruited on a voluntary basis, with engagement taking place via a mixture of remote consultation and in-person workshops. Information gathered was collated and summarised into reports before analysis by the review team.

Results

The complete set of results from the study are yet to be made available, however early results support the need for radical change from current processes in hospital pharmacy practice. Patient and public opinion points to a greater need for convenient access to medicines in a timely way, increased adoption of automation and other technologies to create efficient processes and reduce waiting time. The intelligent use of digital technology in hospital pharmacy changes the spatial requirements in the built environment and how staff practice within it.

Conclusion

Through creatively reimagining hospital pharmacy services, it is possible to deliver a new model of medicines access for patients, improve staff practice and experience, whilst continuing to optimise the use of medicines. The adoption of digital technology can have a transformational impact on how pharmacy services are delivered, including a reduction in spatial demand from the physical architecture.

Conflicts of interest related to this abstract: None

L-2016

The impact of antifungal stewardship (AFS) program on candidemia prevalence, cost effectiveness and mortality rate.

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Introduction

Antifungal stewardship (AFS) is a vital healthcare initiative designed to optimize the use of antifungal medications, aiming to improve patient outcomes, minimize drug resistance, and control healthcare costs. Invasive fungal infections (IFIs), particularly candidemia, represent a significant public health challenge due to their associated high morbidity and mortality rates, particularly among immunocompromised and hospitalized patients. Despite the availability of potent antifungal agents,

suboptimal diagnostic tools and empirical treatments often lead to the overuse or misuse of antifungal drugs, resulting in heightened healthcare costs, increased toxicities, drug-drug interactions, and the emergence of antifungal resistance. Recent studies across diverse healthcare settings have demonstrated the efficacy of AFS programs in improving antifungal prescription quality, decreasing consumption costs, and reducing associated mortality rates. On the other hand, the implementation of AFS programs often faces barriers, including the complexity of fungal infections, gaps in clinician expertise, and the lack of standardized diagnostic methodologies

Aim/Objective(s)

This study evaluates the impact of implementing an Antifungal Stewardship Program (AFP) on fungal infection prevalence mainly candidemia prevalence, mortality rates, and cost-effectiveness at Ibrahim Bin Hamad Obaidullah Hospital (IBHOH) and Old Geriatric Hospital (OGH), in Ras Al Khaimah, UAE, the hospital is 250-bed secondary hospitals managed by Emirates Health Services (EHS) and we evaluated the results of 2 years duration after implementation of the program.

Methods

The Antifungal Stewardship Program (AFP) was launched in early 2022 as part of the Antimicrobial Stewardship Program (ASP). We retrospectively analyzed and compared candidemia infection rates, mortality rates, and antifungal drug costs in the year before AFP implementation (2021) and during the post-implementation period (2022–2023). At IBHOH and OGH, antifungal agents are categorized as "controlled" or "uncontrolled." antifungal. for hospital-wide usage, prescribing any controlled antifungal agents necessitates permission from an Infectious Diseases (ID) consultant and clinical pharmacist. To facilitate this process, a web-based antifungal control system using a predesigned authorization form Within this system, the ID physician and clinical pharmacist utilize the health information system to review the clinical and laboratory presentation, culture reports and images of each patient who is prescribed controlled antifungal. The ASP team (Infectious Diseases consultant and clinical pharmacist) engages in discussions regarding these cases and assesses the suitability of therapy for each individual case.

Results

- The total number of hospital admissions increased from 2,087 in (2021) to 4,854 in (2022) and 4,556 in (2023).
- we reviewed the antibiogram of both hospitals for the 3 years (2021, 2022, and 2023) and we analysis the data of Candidemia prevalence for the most common fungal isolates in our hospital (*C. auris*, *C. albicans*, *C. tropicalis*, *C. Parapsilosis*) and the result of candidemia prevalence was (4.89) in 2021 which decreased significantly by 77.6% (1.1) in 2022 and 83% (0.83) in 2023
- Mortality rates dropped from 13% during (2021) pre-implementation to 3% on (2022) and 2.4 % on (2023) post-implementation which means that controlling usage of antifungal didn't increase the mortality, but it is improving quality of life and decreasing the mortality
- there was huge cost saving, as the cost of antifungal was (1.6) million USD on (2021) dropped to (0.5) million USD on (2022) and to 293000 USD on (2023)
- Cost reduction was (69%) in 2022 and (82%) in 2023 comparing with 2021, translating that into financial savings of over \$1 million in the first year and \$1.33 million in the second year

Conclusion

Antifungal stewardship AFS is a subset of antimicrobial stewardship designed to optimize antifungal use by integrating interdisciplinary collaboration among infectious disease special-

ists, pharmacists, and microbiologists aims to improve the rationality of antifungal prescribing through measures such as education, prospective audit, feedback, and the implementation of guidelines. Our research indicates that a concentrated AFP initiative aimed at primary prescribing clinicians effectively manages a particular category of antifungal and reduces hospital mortality and fungal infection rates mainly candidemia by 75 % which improve quality of care in our hospital and decrease the length of stay, it is also cost-effective as we reduced the cost by more than 70 % and we saved about 1.1 million USD within first year and 1.33 million USD during second year after applying our program without increasing the mortality rate.

Conflicts of interest related to this abstract: No conflict of interest

L-2017

Transforming Tuberculosis Control at Hermina Hospital Group through the "TB Coaching" Program

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Introduction

Indonesia is the second country with the highest tuberculosis (TB) burden globally, with an estimated 1,060,000 TB cases and 134,000 TB-related deaths annually. Challenges in TB control include low case detection, service quality, and also lost to follow up rate, particularly in private healthcare facilities. The 2017 Joint External Monitoring Mission (JEMM) report highlighted that TB case notification from private hospitals is only 8%. Since 2022, Hermina Hospital Group has partnered with the Ministry of Health of Indonesia through a public-private partnership to support TB control efforts and accelerate the 2030 TB elimination goal. However, the implementation of this partnership faces challenges, including limited human resource capacity. The TB Coaching is a program initiated by the Ministry of Health and USAID TBPS, aims to enhance the capacity of healthcare workers in tackling TB. Hermina Hospital Group as a big chain private hospitals actively involved in implementing TB Coaching.

Aim/Objective(s)

"TB Coaching" is a program designed to provide training and mentoring for Hermina's healthcare workers in tuberculosis management, ensuring high-quality and standardized TB services in our hospitals. The primary goal of TB Coaching is to enhance the capacity and maximize the potential of our healthcare workers (coachees) in various aspects such as knowledge, motivation, management, treatment, monitoring, and evaluation, ultimately leading to improved service delivery in TB programs. This initiative aims to build a stronger workforce capable of providing better care and achieving better outcomes in tuberculosis control. Our training and mentoring are facilitated by Ministry of Health through District Health Office who guide our healthcare workers in effectively applying best practices in TB care. The end result of this program is expected that the quality and TB services in our hospitals are carried out according to standards.

Methods

Preparation Phase (November 2022 – June 2024)

1. Advocacy by the Ministry of Health to Hermina Hospital Group regarding TB Coaching implementation
2. Workshop to introduce TB Coaching concepts

3. Collaboration with Hermina Learning Center to develop TB Coaching training plans
4. Selection of TB coaches from healthcare workers
5. Capacity building for coaches on TB diagnosis, treatment, infection control, and counseling
6. Hermina Hospital Group selects coachees (healthcare workers) for TB Coaching
7. Finalization of the coaching activity plan
8. Submission of the plan to the Ministry of Health and USAID TBPS

Implementation Phase (July – November 2024)

1. Selection of hospitals based on low Treatment Success Rates (TSR) and high lost-to-follow-up rates
2. TB coaches provide coaching to 1-3 coachees per cycle
3. Each coaching cycle lasts 4 months and includes 4 sessions
4. In 2024, 12 out of 47 Hermina hospitals (34%) completed one cycle of TB Coaching

Results

Hermina Hospital Group had 43 TB Coaches and 144 TB Coachees in 12 Hermina Hospitals

Indicator	Before	After	% Increase
Average TB Screening	14.85%	61.17%	+312%
Suspected TB Cases	3421	4073	+19%
Proportion of Suspected Cases Examined by GeneXpert MTB/RIF assay	59%	64%	+8%
Confirmed TB Cases	1367	1538	+13%
Proportion of Confirmed TB Diagnosed According to Standards	84%	95%	+13%
TB Patients	1156	1414	+22%
Proportion of TB Patients Treated According to Standards	84%	97%	+15%
Average Lost to Follow-up	6.47%	6.57%	+1.5%
Treatment Success Rate (TSR)	52.38%	69.92%	+33%

The implementation of TB Coaching shows a positive impact on our hospitals. The 312% increase in TB screening reflects stronger early detection efforts. The increase in suspected (+19%) and confirmed (+13%) cases demonstrates successful case finding. The improvement in diagnosis (+13%) and treatment (+15%) according to standards underscores enhanced TB care quality. However, the 1.5% increase in lost to follow-up raises concerns. Intensive follow-up, such as counseling and community support, is needed to ensure treatment completion and meet national targets. The 33% increase in TSR highlights the effectiveness of interventions but should be balanced with a reduction in lost to follow-up for optimal outcomes.

Conclusion

The implementation of TB Coaching at Hermina Hospital Group helps us to improve individual and unit performance, thus contributing to the improvement of organizational performance. This program has successfully strengthened the capacity of our healthcare workers in TB diagnosis, treatment, and management, thereby enhancing the quality of our services. Although positive results have been achieved, challenges related to the lost to follow-up rate remain, highlighting the need for increased attention to ensure patient adherence to treatment. Therefore, it is crucial to strengthen monitoring strategies and patient support to ensure they complete their treatment. A more holistic approach, including continuous monitoring, counseling, and community support, is essential to address these challenges.

In addition, the program created a platform for intense discussions between coaches and coachees, strengthened internal and external networks of TB services (diagnosis – diagnostic networks, access to logistics, tracking of defaulters, access to Anti-tuberculosis Drug). However, the success of this program is not only important for improving our healthcare services but

also for supporting the national effort to eliminate TB by 2030, ensuring that TB control efforts are effective and sustainable across Indonesia.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: INTEGRATING CARE NETWORKS FOR SAFER, COORDINATED, COMPLEX PATIENT CARE

L-2018

Development and Validation of a Care Model for Patients with Multimorbidity: Perspective of Healthcare Providers and Patients

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Introduction

Multimorbidity, defined as the presence of two or more chronic conditions in an individual, affects approximately 65% of adults aged 65 to 84 and up to 82% of those aged 85 and older, with prevalence increasing with age. This often leads to polypharmacy, where individuals regularly take five or more medications daily, heightening the risk of adverse drug interactions and hospitalization. Fragmented healthcare systems exacerbate these challenges, resulting in reduced treatment adherence and increased healthcare utilization. Implementing integrated care models that enhance coordination, optimize medication management, and promote patient engagement is essential. Such models aim to improve clinical outcomes and ensure the sustainability of healthcare systems.

Aim/Objective(s)

This study aims to propose a care model for multimorbidity that is tailored to Colombia's territorial context while also serving as an example for other middle- and low-income countries. It integrates findings from literature reviews, local data, and healthcare providers' perspectives. To achieve this, the following objectives are proposed, which align with the overall goal and expected impact:

1. To propose a multimorbidity care model that is adapted to the Colombian context and applicable as a model for similar settings worldwide, incorporating current evidence, local statistics, and expert insights from healthcare providers.
2. To identify the requirements for future implementation of this model, including necessary resources, training, and system adjustments.

Successful implementation is expected to enhance care coordination, optimize medication management, and improve patient adherence, ultimately leading to better clinical outcomes and contributing to the sustainability of healthcare systems globally.

Methods

This study employed a mixed-methods approach combining qualitative and quantitative techniques to address the proposed objectives. Initially, a systematic literature review was conducted to identify existing multimorbidity care models and successful practices both nationally and internationally, establishing the theoretical framework and highlighting key challenges in managing chronic conditions. Subsequently, local data were

collected and healthcare providers' perspectives obtained through a model validation process using the DELPHI methodology (Linstone, 1975). A representative panel of experts – including providers, insurers, territorial authorities, and academics – evaluated the proposed model over several rounds using a Likert scale (1-9), providing critical feedback for refinement. Additionally, a phenomenological qualitative approach involved semi-structured interviews with chronic patients from three selected territories. Finally, an adapted care model was developed in two stages, following the World Bank model (2023), integrating all findings.

Results

Initial validation results from experts, patients, and health providers confirm the model's potential to improve care coordination, evidence-based decision-making, and patient engagement. Experts underscored the need for effective incentive systems and reduced administrative burdens, while patients and providers emphasized enhanced self-care and improved communication. These findings suggest that the integrated, multidisciplinary approach can lead to more efficient, sustainable multimorbidity management. Below is a summary of the proposed model, organized by its key components and associated items:

Population Management:

- Identification of the multimorbid population
- Engagement of informal social networks
- Support for access to community and social resources

Care Delivery System:

- Regular comprehensive patient evaluations
- A coordinated multidisciplinary team
- A designated professional as the care coordinator and primary contact (case manager)
- Individualized care plans

Decision Support:

- Implementation of evidence-based practices
- Training for multidisciplinary team members
- Development of a consultation system with expert professionals

Self-Care Promotion:

- Training for care providers to promote self-care
- Providing options for patients and their families to enhance self-care
- Shared decision-making between providers and patients

Technology and Information Systems:

- Electronic patient records and computerized clinical files
- Patient information exchange
- Uniform coding of health issues
- Patient-operated technology for sending information to care providers

Conclusion

In conclusion, the integrated multimorbidity care model offers a promising framework to address fragmented care for patients

with chronic conditions. Validation by experts and patients confirmed that the model incorporates evidence-based practices, coordinated multidisciplinary care, and advanced information systems to streamline clinical processes. A key strength of this model is its flexibility; it is designed to adapt to the specific needs and resources of different territories, independent of geographic location. By tailoring population management strategies to the unique demographic and epidemiological profiles of each area, the model supports individualized care that aligns with local realities. Experts emphasized the importance of reducing administrative burdens and establishing effective incentive systems for healthcare providers, while patients highlighted the need for enhanced self-care promotion and improved communication. Overall, this model not only improves clinical outcomes and patient adherence but also contributes to the long-term sustainability of healthcare systems. Continuous evaluation and adaptation will be essential to effectively respond to evolving healthcare challenges and ensure its success over time.

Conflicts of interest related to this abstract: I have no conflict of interest to declare for this work

L-2019

Enhancing ICU capacity and cost-efficiency with a step-down unit: A model for improving critical care flow

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Introduction

ICU overcrowding and prolonged length of stay (LOS) are common challenges that compromise access to critical care, drive up costs, and can negatively impact patient outcomes. ICU bed shortages and bottlenecks at our hospital were delaying admissions and straining resources. Many patients who no longer required intensive therapy remained in the ICU due to a lack of an intermediate care area, while other critically ill patients waited for beds. In response, the ICU team innovated a solution: creating a step-down unit to provide a high-dependency level of care for stable ICU patients. This approach promised to free ICU beds faster, reduce care costs, and maintain quality and safety through evidence-based protocols in the step-down setting. We launched this project in January 2023 as part of a cluster-wide quality initiative, aiming to improve critical care flow and patient outcomes.

Aim/Objective(s)

The project's primary aim was to enhance ICU capacity and cost-efficiency without compromising care quality. To achieve this aim, the team set clear, measurable objectives:

- Optimize ICU throughput: decrease the median ICU LOS by at least 50%, and eliminate excessively long ICU stays (>30 days) by providing timely step-down care.
- Increase access: Improve ICU bed availability (reduce admission delays) and increase the number of ICU admissions by at least 20% through faster transfers to step-down.
- Improve quality of care: increase compliance with the sepsis management bundle to >85%; reduce ventilator-associated events (VAE) by 50% and achieve zero central line-associated bloodstream infections (CLABSI).
- Boost satisfaction: By alleviating workload pressures, elevate overall patient satisfaction and family experience scores to >85% and improve staff (nurse/physician) satisfaction and engagement to >80%.

Methods

A multidisciplinary team (ICU physicians, nurses, respiratory therapists, finance, and quality experts) used a structured quality improvement approach. We analyzed baseline data to identify causes of prolonged ICU stays, using tools like fishbone diagrams and Pareto analysis for factors like indirect nursing time and delays in care processes. We then planned and implemented a step-down unit adjacent to the ICU, staffed at a nurse-to-patient ratio of 1:3. Clear admission and discharge criteria were established so that ICU patients stable enough for moderate care were transferred to the step-down unit as early as possible. We utilized Plan-Do-Study-Act (PDSA) cycles to test interventions: daily VAE-prevention rounds, strict central line & sepsis bundle protocols, and improved handoff processes. Data was collected weekly using a weekly visual management board tool to track key performance indicators (LOS, admissions, infections, costs, satisfaction), enabling continuous monitoring and team feedback.

Results

The step-down unit led to significant improvements in ICU capacity, quality, and cost efficiency. Median ICU LOS dropped from ~8 days to ~3 days (78% reduction). ICU admissions doubled (from ~15 to ~30 per week) as beds freed up faster, and no patients now stay >30 days. This improved throughput yielded cost savings of ~8% in ICU care expenses (about 0.8 million SAR annually). Quality metrics also improved markedly. Sepsis bundle compliance rose to >85% (from ~65% baseline). Ventilator-associated events fell from ~5 per quarter to 0 in the last 6 months, and zero CLABSI infections occurred post-implementation (vs ~2 per quarter before). Importantly, ICU 48-hour readmissions remained under 2%, indicating patients were appropriately stabilized before transfer. Experience metrics showed positive gains. Patient satisfaction climbed from ~73% to 85%, and staff satisfaction similarly rose from ~70% to 85%. Both patients and clinicians reported smoother care transitions, reduced workload stress, and a safer ICU environment with the step-down unit in place.

Conclusion

Establishing the ICU step-down unit proved to be a highly effective strategy for improving critical care delivery at our hospital. We achieved our aim of maximizing ICU capacity – enabling more patients to receive timely intensive care – while simultaneously reducing costs and enhancing care quality. Key ICU outcomes (LOS, throughput) improved dramatically, and we attained “zero harm” in terms of ICU-acquired infections (no CLABSI, no recent VAE). The project also fostered a better care environment, reflected in higher satisfaction levels among patients and staff. These results demonstrate that a step-down unit can transform ICU patient flow and outcomes. By providing the right level of care at the right time, we not only optimized resource utilization but also maintained or improved clinical outcomes. The approach is sustainable and has been integrated into our standard operations. Our model can be replicated in other hospitals facing ICU congestion to achieve similar gains in efficiency, cost-effectiveness, and patient-centered care. This initiative aligns with national healthcare goals of quality improvement and value-based care, positioning our organization as a leader in innovative critical care solutions.

Conflicts of interest related to this abstract: None

L-2020

Enhancing Palliative Care Provision for Patients with Chronic Respiratory Diseases: A Nurse-Led Consultation Model

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Introduction

Patients living with chronic respiratory diseases (CRD) present complex symptoms and care needs, which can be effectively addressed through the early integration of palliative care (PC). Although palliative care is recommended early in their disease trajectory by international guidelines, these patients often do not have access to palliative care or only very late, during end of life care. Since 2019, the Pneumology and Palliative Care Divisions of the Geneva University Hospitals (HUG), in collaboration with the Geneva Lung League, have developed a nurse-led palliative care consultation aimed at improving PC provision for patients with CRD.

Aim/Objective(s)

The aim of this study was to evaluate the impact of a nurse-led palliative care consultation for patients with chronic, non-oncological respiratory diseases. The focus was on enhancing care coordination, symptom management, and advance care planning, with an emphasis on integrating non-pharmacological interventions and addressing carer needs.

Methods

We conducted a retrospective analysis to assess the development and implementation of the nurse-led palliative care consultation model. The consultation, supervised by a senior palliative care physician, was designed to identify and coordinate the care network of patients, manage symptoms through non-pharmacological interventions (such as hypnosis), facilitate advance care planning discussions, and support carers. The consultations were scheduled every 1 to 3 months per patient, with interdisciplinary team meetings held every 3 months to ensure coordination between the palliative care and pneumology teams.

Results

In the first 12 months (January 2024 to December 2024), 22 patients with chronic, non-oncological respiratory diseases were followed, with an average of 4 consultations per patient. The primary symptoms identified at the initial consultation were dyspnea (n = 10), anxiety (n = 5), and drowsiness (n = 2). A total of 21 non-pharmacological interventions, including reflexology, clinical hypnosis, and light-touch massages, were administered. Advance care planning was initiated for 9 patients (41%), and 8 patients (36%) completed their advanced directives with the help of the coordinating nurse. At the end of the year, 20 patients (91%) were still alive, demonstrating an effective early access to the model.

Conclusion

The implementation of a nurse-led palliative care consultation for patients with CRD, in collaboration with pneumologists and palliative care specialists, has facilitated personalized care, improved coordination of care trajectories, and helped define goals of care. While the model has proven beneficial in addressing patients' needs, further evaluation of its clinical impact as well as patient-reported and carer outcomes are necessary to assess its long-term effectiveness and potential for broader application.

Conflicts of interest related to this abstract: None

L-2021

Enhancing Patient Safety: A Quality Improvement Initiative to Reduce Hospital Acquired Pressure Injuries

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Introduction

MCIT, a leading tertiary care hospital, provides specialized care for critically ill patients requiring intensive care, complex surgeries, and long-term hospitalization. Patients in critical care and medical units face a high risk of hospital-acquired pressure injuries (HAPIs) due to immobility, high-acuity conditions, prolonged stays, and medical device use, including ventilators and multiple tubes. Advanced age, malignancies, and comorbidities such as diabetes, hypertension, and vascular diseases further increase this risk for our patients. To prevent HAPIs, MCIT implemented multidisciplinary strategies, staff education, and specialized medical devices. However, from June to December 2023, our Adult ICU and Medical Ward reported 17 HAPI cases, leading to prolonged recovery, infections, increased healthcare costs, and regulatory concerns. Recognizing the urgency, we launched a performance improvement project aimed at strengthening preventive measures, enhancing patient care, and reducing HAPI incidence, ultimately improving patient outcomes and healthcare quality.

Aim/Objective(s)

1. Reduce HAPI Incidence – Decrease HAPIs in adult critical care and medical units through targeted interventions.
2. Enhance Early Detection and Risk Assessment – Strengthen use of standardized risk assessments (e.g., Braden Scale) to identify high-risk patients to implement preventive measures proactively.
3. Improve Clinical Staff Education – Enhance staff competency on pressure injury prevention, early recognition, and intervention strategies.
4. Implement Evidence-Based Prevention Strategies – Standardize best practices, including repositioning protocols, skin care, use of pressure-relieving devices, and early mobilization (aSKINg Bundle)
5. Optimize Multidisciplinary Collaboration – Foster teamwork among nurses (including wound care), physicians and physiotherapists to ensure a holistic approach to HAPI management.
6. Engage Patients and Families in Prevention Efforts – Educate patients and families on pressure injury prevention, positioning techniques, and skin care to encourage active participation in care.
7. Monitor and Evaluate Outcomes – Establish a real-time data monitoring systems, audits, and performance reviews to measure progress and sustain improvements.

Methods

This quality improvement project followed the FOCUS PDCA methodology, engaging a multidisciplinary team of nurses and physicians from the ICU and Medical Ward, wound care nurses, quality professionals, and nursing leadership.

Data Collection & Sampling

- Data was collected from all patients admitted to the Medical Ward and Adult ICU.
- Patient assessments and aSKINg bundle implementation were evaluated through medical record audits.
- HAPI cases were identified via the Incident Reporting System (TPSC).

- Sample size: 30% of all ICU and Medical Ward admissions, selected using simple random sampling.

Audit & Analytical Tools

- Audit tool: "Pressure Injury Documentation Audit Tool." Collecting data on implementation of aSKING Bundle – Assess risk, Surface; Skin Inspection; Keep your patients moving; Incontinence/increased moisture; Nutrition/hydration and giving information;
- Quality tools: Flow charts, bar diagrams, fishbone diagrams, and Pareto analysis.
- Data analysis tools: Mean, trend analysis, and root cause analysis (RCA).

This approach enabled data-driven decision-making to enhance HAPI prevention.

Results

Non-Compliance and Trends Identified

- 140% increase in Pressure Injury rate per 1000 patient days from the first to the second half of 2023.
- 40% non-compliance with the comprehensive implementation of the aSKING bundle.
- 40% inappropriate documentation of the aSKING bundle in medical records.
- 54% non-compliance in patient and family education, leading to ineffective awareness and prevention efforts.
- Lack of physician involvement when patients refused position changes.
- Limited referrals to essential support services:
 - 28% were referred to physiotherapists.
 - 40% were referred to dietitians.
- Minimal family or caregiver involvement in HAPI prevention efforts, leading to inadequate support for patient repositioning and pressure injury management.

Identified Gaps in Practice

- Nursing staff knowledge on HAPI prevention was inadequate.
- Lack of focus on medical record documentation, particularly in skin assessments and noting patient refusal or non-compliance.
- Nurses were reluctant to involve physicians in getting patient buy-in for prevention strategies.
- Limited availability of air mattresses, requiring them to be shared between units.
- Patient education on HAPI prevention was inadequate and inconsistently provided.
- Lack of structured family or caregiver involvement in patient care, reducing adherence to repositioning and preventive measures.

These findings highlight critical areas requiring targeted interventions to improve HAPI prevention efforts.

Conclusion

Improvement Actions Implemented

1. In-service education for nursing and physicians.
2. Revised competency assessments with a practical focus.
3. High-Risk Patient Task Force; daily reports from wound care to DM & Ums; weekly reviews of Braden ≤ 12 patients by UMs, WC Nurses, Quality, and Leadership.
4. Daily SRN cross-checks for physiotherapy and dietitian referrals.
5. Increased physician involvement for patients refusing position changes.
6. More positioners, air mattresses, and preventive dressings.
7. Immediate wound care referral from ED for high-risk or CAPI cases.
8. PI prevention awareness campaign with CME lectures at MCIT.
9. Revised and communicated PI policy.

Performance Improvement Outcomes(2023 vs. 2024)

- HAPIs reduced from 22 to 6, 390% decrease in HAPI rate per 1000 patient days.
- 98% compliance with aSKING bundle
- 96% compliance to Patient and family education
- 100% increase in physician involvement for patients refusing position changes.
- 100% referrals to physiotherapists and dietitians.
- Increased family and caregiver engagement in HAPI prevention.

Sustained Impact on Healthcare Quality and Benchmarking

MCIT's interventions enhanced patient safety, healthcare quality, efficiency, and cost reduction, establishing a sustainable, patient-centered model for HAPI prevention. With HAPI rates below the 2.05 NDNQI benchmark, MCIT's approach sets new standards for tertiary care hospitals.

Conflicts of interest related to this abstract: None

L-2022

"RAC-réseau" – Enhanced recovery after surgery: the crucial contribution of home care in a clinical pathway

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Introduction

Developments in healthcare, combined with the pressure on human and financial resources, entail new approaches and a transformation of care methods. Enhanced recovery after surgery (ERAS/ French "RAC") is one of these and is becoming increasingly widespread. However, it focuses on the hospital sector, although technological and organisational developments, as well as the development of clinical expertise among healthcare personnel, now make it possible to provide increasingly advanced care at home. The 'RAC-Réseau' project, led by IMAD and HUG, is a pioneer in its integration of the home care aspect, thanks to close collaboration with different actors of the health network. Aiming both at quality and efficiency, this project, co-managed and implemented by HUG and IMAD, has developed a care pathway integrating the Geneva healthcare network. Some procedures have been provided on an outpatient or home care basis, supported by expert coordination between the various stakeholders.

Aim/Objective(s)

The project had four objectives:

- consolidate and generalise the development of an innovative care model with a view to its sustainability and applicability to other regions
- Improve the overall quality of patient care and their experience by developing coordinated surgical clinical pathways (CPs) with the care network and the patient;
- Improve the patient's and the professionals' satisfaction;
- Improve the effectiveness and efficiency of the healthcare network by developing clinical pathways for surgery that integrate interprofessional, interinstitutional and intracommunity logic.

Methods

Improved rehabilitation is based on three fundamental principles:

- the scientific basis of all measures applied (evidence-based medicine).
- the development of the interprofessional approach.
- the participation of the patient, who becomes a privileged actor in his or her care.

The pilot project, which lasted from 2022 to 2024, focused on three elective surgeries: colorectal, thoracic and hip replacement (the latter only for patients >75 years old). Patients were classified into three categories, according to their level of frailty assessed using different validated clinical scales. The two most fragile categories were included in the RAC-Réseau project, representing a total of 203 patients. Within the pre-habilitation, hospitalisation and rehabilitation phases, in addition to the already well-known hospital services, care includes services such as assistance with daily living, nursing care, nutritional advice, ergotherapy and physiotherapy.

Results

The medical-econometric study provided the following results:

- length of hospitalisation down by an average of 1.6 days
- overall care costs down by a total of CHF 1,550,352, i.e. a 17.8% reduction in costs.
- 48% reduction in the rate of re-hospitalisation (10 patients out of 543 vs 2 patients out of 203 previously)
- 61.8% reduction in the mortality rate (7 patients out of 543 vs 1 patient out of 203 previously)
- hospital readmission rate down by 36% (224 patients out of 536 vs 54 patients out of 202 previously)
- high degree of patient satisfaction, as more than 90% of them reported being satisfied with their care

Conclusion

The coordinated integration, in the "RAC-Réseau" project, of care and health organisations working outside the hospital is an innovative approach, barely developed and, to our knowledge, non-existent in Switzerland. The medical-econometric analysis has demonstrated the strong potential of this concept, which nevertheless involves a few prerequisites, in particular the existence of a strong home care system. The difficulties encountered during the course of the project related to the quality of coordination between the nursing teams. In addition, the lack of an information system enabling the immediate and complete sharing of data is a hindrance. However, in view of the extremely promising results and the enthusiasm of both healthcare professionals and patients, it has been decided to make the RAC-Réseau permanent and extend it to other surgical specialties. The ultimate goal is to include all patients requiring surgery and needing specific care before and/or after surgery. This deployment should also make it possible to confirm the validity of the approach on a larger scale and to adapt the organisation of the network accordingly; this includes the distribution of funding, given that the current fragmentation complicates the demonstration of benefits and does not correspond precisely to the expenses of each partner.

Conflicts of interest related to this abstract: None

L-2023

Use of a Multidisciplinary Huddle to Improve Discharges for Patients with Long Length of Stay

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Introduction

Mayo Clinic Florida is experiencing significant growth in the number of patients requiring hospital care, many with complex medical and social needs. This has occasionally led to our institution exceeding our licensed bed capacity, requiring creative solutions to meet demand while maintaining hospital throughput without compromising safety. Increasing medical complexity, along with rising insurance denials, can limit our

ability to discharge patients safely to appropriate care settings, often resulting in longer hospital stays. To address these challenges and improve resource utilization, we have formed a multidisciplinary team focused on navigating long length of stay (LLOS) and complicated discharge needs. The LLOS team meets weekly with hospital administration, case managers, and physician leads to collaborate with patient care teams and find solutions for appropriately discharging these more complex patients.

Aim/Objective(s)

The aim of this project is to achieve improvements in both qualitative and quantitative aspects of patient discharge for those with long lengths of stay (LLOS). Quantitatively, we aim to reduce the mean length of stay for the general hospital population and specifically for the LLOS cohort. We plan to assess and improve the clinical outcomes associated with early and effective discharge, with a focus on optimizing care delivery and minimizing unnecessary delays. Qualitatively, we intend to evaluate staff satisfaction with the new huddle process, ensuring that multidisciplinary teams feel engaged and supported. Our objectives also include streamlining discharge workflows, such as developing standardized care conference templates, creating clear discharge refusal guidelines, and establishing administrative pathways for obtaining charitable approvals. This approach aims to improve the overall efficiency of discharge planning, better meet patient needs, and promote smoother transitions from the hospital back to the community.

Methods

Our LLOS huddle project began in 2023 with a goal of reviewing the top 10 longest stay patients in the hospital that week, excluding active transplant patients. This meeting takes place virtually each Wednesday for 30 minutes. The meeting currently includes physicians from hospital internal medicine and psychiatry as well as dedicated team leader case managers, nursing leaders, hospital administrators, billing, registration, and utilization review. We compared hospital data from 2023 and 2024, including hospital mean length of stay and case mix index (CMI) acuity levels, to assess the impact of the huddle. For the LLOS cohort, we selected a sample of 6 cases from 2024 for review. The team worked to identify common barriers to discharge, such as financial issues, lack of family support, and legal complexities. Solutions were formulated during the huddle, including care conference recommendations, referrals for insurance assistance, and consultations with specialists.

Results

From 2023 to 2024, there was a significant reduction in the hospital's overall mean length of stay, from 5.84 days to 5.04 days, despite an increase in case mix index (CMI) acuity level from 2.05 to 2.18. For the LLOS case review cohort, the mean length of stay was 75.8 days, with the longest stay spanning 309 days. Key barriers to discharge included: lack of adequate insurance, insufficient family support, catastrophic changes in patient health, disagreements among family members regarding care plans, patients coming from out of state, and situations requiring legal involvement. The huddle team initiated several interventions, such as coordinating care conferences, recommending palliative care discussions, and facilitating consultations with psychiatry. Patients with no insurance or underinsurance were provided Medicaid applications and referrals to appropriate insurance plans. Administrative approval for charity care was obtained, and community resources were identified. A formal discharge refusal guideline was created to help mitigate delays in the discharge process. These strategies contributed to improving discharge efficiency, which correlated with a reduction in average length of stay for patients in this cohort.

Conclusion

LLOS patients are often deprioritized in the discharge planning process due to their complex needs. Having a LLOS huddle run by senior case managers is a successful strategy for improving safe and timely discharge. Key tactics include:

1. Including physicians in the huddle, which allows for clinical expertise and insights into complex cases. Hospitalists can function as medical directors for LLOS patient oversight.
2. Knowledge of local programs and resources which helps the team connect uninsured patients to insurance programs and reduce barriers to care.
3. Creating streamlined workflows to address common problems allows for continuous improvement. Examples include

standardized care conference templates, therapy recommendation pathways, or discharge refusal guidelines.

4. The LLOS huddle functions as a learning system, creating shared experiences and knowledge growth for team members who can apply learnings from one case to others. Creating a collaborative, multidisciplinary environment that is psychologically safe allows all team members to speak up and make suggestions.

This project highlights the importance of an internist-led multidisciplinary team in facilitating safer, more effective discharges and emphasizes the value of proactive interventions in overcoming barriers to discharge, ultimately benefiting both patients and the healthcare system.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: EMPOWERING PATIENTS AND SYSTEMS THROUGH COLLABORATIVE, PERSON-CENTRED CARE

L-2024

SPM2030: A Population-Based Model for Integrating Planetary Health into Urban Sustainability

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Introduction

The Salut Planetària Mollet 2030 (SPM2030) project aims to design a planetary health program for the Fundació Sanitària Mollet (FSM), covering 170,000 inhabitants across 11 municipalities in Catalonia. The project is based on the Planetary Health concept, which recognizes the interdependence of human and environmental health. It seeks to develop a model for sustainable cities and public health best practices by integrating human, social, and environmental health. A diagnostic component will assess the state of planetary health in the target population, with indicators to monitor progress. SPM2030 is a collaboration between FSM and ISGlobal, established through an agreement in October 2024 to create a Planetary Health Development Center. This initiative will identify opportunities to improve population well-being and environmental sustainability, offering a replicable model for other regions facing similar challenges due to climate change and urbanization.

Aim/Objective(s)

The main objective of SPM2030 is to design an innovative planetary health program in a Mediterranean region, integrating environmental and health priorities at various governance levels, from local governments to public health institutions and community organizations. The program will establish a population-based model that promotes urban sustainability through enhanced public health policies and interventions. Key specific objectives include:

- Developing a comprehensive planetary health framework for FSM's reference area.
- Conducting a planetary health diagnosis, including data collection on environmental and health indicators.
- Creating essential planetary health indicators for monitoring and evaluation.
- Mapping nature-based health assets within the 11 municipalities and proposing nature-based solutions.

- Implementing a co-creation model based on the Theory of Change, engaging local authorities, citizens, and key stakeholders.
- This initiative will serve as a scalable and replicable model to promote planetary health in other urban areas.

Methods

The study follows a mixed-methods approach, integrating quantitative and qualitative methodologies. Its include:

1. Conceptual framework development: Establishing a guiding framework based on safe and just planetary boundaries, addressing key dimensions such as air quality, biodiversity, climate resilience, and sustainable urban planning.
2. Inventory of existing initiatives: Reviewing local, regional, and national programs related to planetary health, such as urban renaturalization and climate adaptation policies.
3. Database review: Analyzing existing health and environmental datasets relevant to planetary health in the Baix Valès region.
4. Indicator development: Defining core planetary health metrics, integrating the Planetary Health Watch approach and aligning with global monitoring frameworks.
5. Nature-based health asset mapping: Identifying green spaces, forests, and rivers in the 11 municipalities.
6. Stakeholder engagement: Conducting surveys and focus groups to assess stakeholder awareness and involvement in planetary health.
7. Co-creation model: Applying the Theory of Change to design participatory strategies with local actors.

Results

The SPM2030 project has developed an evidence-based planetary health model that integrates public health and environmental sustainability. Key findings include:

- Health-environment diagnostic: The assessment of air quality, climate risks, and green space accessibility revealed key vulnerabilities affecting human and ecosystem health.
- Indicator system: The project established planetary health monitoring tools, allowing municipalities to track progress on climate adaptation, urban resilience, and health outcomes.
- Nature-based solutions (NBS): The study identified potential green infrastructure projects that could improve air quality, biodiversity, and social well-being, reinforcing the link between urban planning and planetary health.
- Stakeholder engagement: Surveys and focus groups indicated strong community interest in environmental health

policies but highlighted fragmented governance as a barrier to effective implementation.

- Co-creation outcomes: The application of the Theory of Change led to the development of local action plans, ensuring municipal and citizen participation in sustainability strategies.
- The results demonstrate the feasibility of a population-based planetary health model, providing a replicable framework for integrating health and environmental policies at the local level.

Conclusion

The SPM2030 project highlights the urgent need for integrated approaches to address the health impacts of climate change and urbanization. The study underscores the importance of interdisciplinary collaboration in developing evidence-based public health policies that prioritize environmental sustainability.

Key conclusions include:

- Planetary health should be a central component of urban planning, healthcare, and governance, ensuring that human and environmental health are addressed simultaneously.
- Monitoring frameworks such as the Planetary Health Watch provide critical insights for tracking climate-related health risks and guiding policy actions.
- Nature-based solutions (NBS) represent a cost-effective strategy to enhance urban resilience, improve air quality, and promote active lifestyles.
- Community involvement is essential: participatory approaches, including the Theory of Change, ensure that planetary health interventions are tailored to local needs and priorities.
- Replicability and scalability: The SPM2030 model can be adapted to other urban regions, serving as a blueprint for planetary health initiatives worldwide.
- Moving forward, continued data integration, governance collaboration, and community engagement will be essential to sustain and expand planetary health initiatives at the local and international levels.

Conflicts of interest related to this abstract: None

L-2025

Global is Local: Establishing an Effective Framework for Global Quality and Safety Enhancement

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Introduction

Our world is more interconnected than ever before through the proliferation of technology, travel, and experiences. The impact of local events, from environmental, to financial, to violence and warfare, to disease, are felt around the globe. However, the quality of healthcare delivery has largely remained a local phenomenon. In the past decade, we have established healthcare collaborations with diverse international partners from Asia to South America. Our aim for each collaboration is to improve the individual organization's quality of healthcare delivery and establish a culture of quality and safety. Given the vast difference between the United States and other global healthcare systems, we needed to create a standardized practice for improving quality and safety using our local methodology that is based on best practices, reproducible, and able to be customized based on the needs and healthcare culture of each international partner.

Aim/Objective(s)

The aim of our initiative is to establish a standardized framework of quality and safety improvement methodology that can be deployed successfully across different healthcare cultures to drive substantive results and enable safety culture transformation.

Methods

We gathered best practices learned in conducting quality and safety improvement across different cultures through our global projects, and succeeded in creating specific approaches and initiatives that we learned can advance healthcare services, quality, and outcomes. We have developed standardized tools needed to understand the local healthcare culture and delivery system, methods to assess the local quality and safety system by understanding local culture and exhibiting cultural competency when engaging with an international healthcare partner, and best practices in conducting process improvement and change management in an international arena.

Results

Our standardized methodology to approach different global organizations in Quality and Safety system improvement includes both virtual and in-person engagements to understand the local healthcare culture and the needs of the institution. Our framework of analysis includes conducting virtual advanced information request with a list of information of the national and local healthcare systems, institution statistics and background, as well as quality and operational metrics. Through the advanced document request and discussions with local stakeholders, we identify the needs of the organization. We conduct a series of on-site gap assessments to finalize our understanding of the local healthcare system and needs for improvement. The result of the gap assessment is formalized into annual work plans by both our organization experts and our partner's local stakeholders to identify the most urgent and feasible needs to design improvement plans upon. A clear timeline with strategic steps, measurable data, and responsible parties are established in this process jointly. To transform the quality and safety culture of the institution, the improvement processes include ongoing training of local leaders, so that our partners can truly adapt the change management.

Conclusion

Our collaboration process has led to successful quality and safety cultural transformation across multiple different global healthcare settings, in smaller arenas such as improving communication in a hospital Emergency Department, to broader initiatives such as instilling a culture of safety in a large community hospital. We found that our standardized approach to engage each global partner resulted in a practice that can be easily adapted by any system, regardless of the scope or scale of work. Our practice of customizing quality and safety improvement based on each individual organization has produced sustainable cultural transformation.

Conflicts of interest related to this abstract: None

L-2026

Prepare to Care – Implementing Family Care into the Structures of a University Hospital as an advanced nursing care model

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Introduction

The majority of individuals requiring care – about four in five – are supported at home, primarily by family caregivers. This trend will intensify as the aging population grows, with an estimated 1.3 million more people needing care in Germany by 2035. At the same time, healthcare systems face staff shortages, limited hospital capacities, and financial constraints.

Family caregivers play a vital role in bridging this gap but often face significant emotional, physical, and financial strain. Sudden care dependency, such as after hospitalization, can be overwhelming. Without adequate preparation, home caregiving may become unsustainable. Individualized counseling and structured caregiving training are crucial to equipping family caregivers with essential skills, reducing stress, and ensuring quality home care. Strengthening their role not only enhances patient well-being but also helps alleviate pressure on the healthcare system.

Aim/Objective(s)

The aim of this project is to proactively address the challenges faced by family caregivers through individualized counseling and hands-on care training, starting in inpatient settings and extending into home care. By preparing family members before discharge, caregiving-related stress can be mitigated, and the transition to home care can be made more sustainable. A key objective is to establish and integrate family caregiving within the complex structure of a university hospital. Unlike other healthcare settings, university hospitals primarily focus on acute medical treatment, with limited structured support for family caregivers. In Germany, systematic programs for family care training in university hospitals are not yet widely established. Therefore, this initiative seeks to create a pioneering, practice-oriented concept that provides long-term support for family caregivers. By embedding family caregiving in the university healthcare system, the project aims to enhance patient-centered care while alleviating the burden on professional caregivers and the healthcare system.

Methods

The project focuses on three key aspects, followed by an evaluation: (1) the development of an innovative, practice-oriented concept for the sustainable implementation of family caregiving, (2) the design and implementation of a training program for care trainers, and (3) implementation based on the seven phases of change management. An interprofessional and interdisciplinary team – including advanced practice nurses, nursing managers and directors, social and care counseling departments, and central personnel and pool management – developed the concept. International and national studies on family caregiving were analyzed, national reimbursement options were reviewed, and a contract with the public care insurance was established. The training program was developed based on existing hospital programs, with each course undergoing evaluation and revision. Implementation was widely communicated using various marketing strategies. A coordinating nurse was appointed to manage requests, oversee decentralized care trainers, and directly train family caregivers.

Results

In 2022 and 2023, the concept was developed. In 2024, marketing strategies, structural integration, and the development of a training program for nursing professionals, titled *Mentor for Care Training – Family Care*, consisting of 56 teaching units, were implemented. Two training courses were conducted, with a total of $n = 19$ participants, all of whom had at least three years of nursing experience. By 2024, the family care model had been established with $n = 16$ decentralized care trainers and one central coordination unit. The trainers operated across wards and/or specialized in specific topics. The change management phases were continuously monitored and adjusted accordingly. A total of $n = 44$ care training sessions were conducted in 2024. During the implementation phase, integrating the new care trainer role into existing ward routines initially caused uncertainty and resistance in some areas due to limited personnel resources, despite prior communication. In the evaluation phase, adaptations were made to enhance role integration into daily ward operations. As a result, the number of training sessions increased significantly to $n = 38$ in January–February 2025, reflecting a fivefold increase compared to 2024. Central coordination ensures a hospital-wide overview and facilitates efficient request management.

Conclusion

Familial care in hospitals serves as a crucial bridge between acute medical treatment and home-based care, particularly in an aging society where the demand for integrated care models continues to rise. By actively involving family members in the caregiving process, hospitals can facilitate smoother transitions, improve patient outcomes, and enhance overall care continuity. However, implementing sustainable familial care structures in a high-level care hospital requires time, strategic planning, and institutional commitment. The integration of family caregivers into hospital workflows necessitates not only organizational adjustments but also training programs, interdisciplinary collaboration, and policy adaptations. While challenges such as workload distribution and staff acceptance may initially hinder implementation, long-term benefits – including reduced hospital readmissions and enhanced patient well-being – justify the investment in these structures. As demographic shifts continue to shape healthcare demands, familial care will gain increasing significance. Hospitals must proactively develop frameworks that support and empower family caregivers, ensuring that they are well-prepared for their role in post-hospital care. A successful implementation of familial care models will not only improve the quality of care but also contribute to a more resilient and patient-centered healthcare system.

Conflicts of interest related to this abstract: None

L-2027

Strengthening Sustainable Healthcare: A Medical-Social-Collaboration Patient Empowerment Initiatives for Stroke Patients and Caregivers

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Introduction

Stroke is a critical cerebrovascular condition characterized by abrupt interruption of cerebral blood flow, leading to neurological impairments such as hemiparesis and aphasia. According to Hospital Authority, around 14,000 patients were admitted to hospital due to stroke. The repercussions of stroke often encompass a wide range of effects that extend beyond physical symptoms, significantly influencing a patient's psychological well-being and their quality of life. Social care, defined as health care activities related to social needs have found to effectively

mitigate the adverse effects due to lack of community care access on health outcome and facilitated community rehabilitation and integration. An interface programme integrating social care was established twenty years ago to ensure smooth transition from hospital to home following the commissioning at Rehabilitation Stroke Unit (RSU) of Pok Oi Hospital. The service has been extended to RSU and Acute Stroke Unit (ASU) at Tuen Mun Hospital afterward.

Aim/Objective(s)

Leveraging previous success, the programme has enhanced into a Medical-Social-Collaboration Patient Empowerment Programme (MSC-PEP) through collaboration with community partners after COVID to enhance the health outcome of the stroke patients in community. The programme aimed to: improve post-discharge home care skills for stroke, provide emotional support and build up supportive network, and connect the families with local services to facilitate smoother transitions from hospital to home.

Methods

Between December 2023 and August 2024, the MSC-PEP programme supported hospitalized stroke patients and their caregivers through a multidisciplinary team of nurses, social workers, community providers, and peer support volunteers. The programme focused on three key components: capacity building in stroke management, establishing a supportive network, and recognizing social services. Nurses led educational sessions covering stroke causes, symptoms, home care strategies, and relapse prevention. Peer support volunteers shared their rehabilitation experiences, fostering valuable connections with patients and caregivers. Community partners also organized an introductory session on available services to enhance awareness and facilitate access, including onsite registration to ensure smoother transitions to community rehabilitation programmes. To evaluate the programme's effectiveness, a self-constructed post-programme evaluation questionnaire was administered. This assessment measured perceived improvements in stroke knowledge, the practicability of home care skills, and awareness of community resources.

Results

217 patients and caregivers joined the programme and 109 completed questionnaires were received. The mean age of the patients were 65.06 (SD = 12.73). Among these patients 60.4% were male, 81.25% were diagnosed with ischemic stroke, and 52.08% of them required walking aid upon discharge. Patients and caregivers were asked to complete the post-programme evaluation questionnaire upon completion of the programme, 89% of them reported an improvement on understanding of stroke knowledge. 91.8% of them reported the acquired home-care skills were practical. 92.41% of them reported they found community resources helpful, which helped them to navigate through different social services for stroke rehabilitation. Most of participants were connected to the local community centre immediately after the programme. Qualitative feedback underscored the benefits of peer sharing, particularly in normalizing psychological responses and alleviating feelings of loneliness. Additionally, the demonstration of home exercises enabled participants to effectively transfer acquired skills to their home environment. The introduction and registration for community services provided participants with valuable awareness of available resources, thereby enhancing service accessibility.

Conclusion

The MSC-PEP successfully enhanced stroke management capacity among patients and caregivers, fostered peer support, and improved awareness of community resources for post-discharge care. By integrating social care via medical-social collaboration, the programme showed positive effect in accommodating social barriers in stroke rehabilitation, enhance social

care accessibility, and promoted patient empowerment. The comprehensive and smooth hospital-to-home transition enabled holistic patient care, timely discharge and reducing reliance on institutional care. This intervention model demonstrates significant potential for replication in pre-discharge support initiatives for other chronic conditions which required long-term care such as cardiovascular disease and diabetic disease. The innovative service model also aligned with the objective of sustainable healthcare, which focus on community-based care and resource optimization.

Conflicts of interest related to this abstract: None

L-2028

THE ONCOLOGY NETWORK ORGANIZATIONAL MODEL: CLINICAL GOVERNANCE, PROCESS INNOVATION, LEAN MANAGEMENT

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Introduction

The use of diagnostic therapeutic assistance pathways (PDTA) and patient management through Multidisciplinary Oncology Business Teams are recognized as effective tools to deal with the complexity of managing cancer patients. The multidisciplinary approach ensures greater timeliness of decisions, improves timing and coordination, contributing to the control of the risks of medical error and inappropriateness. The Team is a coordinated group of healthcare professionals from different disciplines involved in the treatment of a specific pathology, which aims to improve patient care.

Aim/Objective(s)

The objectives of the proposal are to create an Organizational Model of operation of the ASL BT Oncology Network capable of guaranteeing that all appropriate diagnostic tests and treatment options are considered and evaluated for each oncology patient discussed within the Team, taking into account of the patient's values and the pursuit of a policy of improving the quality of care, the path and health outcomes. Furthermore, contribute to the drafting and continuous updating of PDTAs, the creation of links with other healthcare organizations to ensure appropriate referrals, timely consultations and optimize the continuity of patient care and to innovation, research and participation in clinical trials.

Methods

The proposed model aims to achieve the objectives explained through the identification of targeted actions by the Team Leader and the Multidisciplinary Teams aimed at taking care of the patient on multiple fronts, from the purely medical-diagnostic to the human and psychological one, guaranteeing him a better diagnosis and treatment path.

Results

9 Multidisciplinary Oncology Teams per pathology; 9 Team Leaders and 9 Case Managers; 9 Diagnostic Therapeutic-Assistive Paths, 7 of which implement regional guidelines and 2 which introduce new technical proposals on specific districts (Head-neck and Neuro oncology) as the leader in the Puglia Region; 1 Multidisciplinary Team dedicated to cervicofacial tumors with an opening to a broader plan for the creation of one of the few Head and Neck Departments in Southern Italy; Single Multidisciplinary Report format drawn up by each Multidisciplinary Team; Standardized PDTA model drawn up according to the certification criteria, homogeneous for all pathology-specific

paths; Implementation of nutritional and psychological support; Evaluation of perceived quality (PREMS/ PROMS) by the patient with a reporting system followed by audits by the Team and proposed corrective actions.

Conclusion

An organizational model of Clinical Governance and Management of Clinical Organizational Processes which forms the basis of an Accreditation Manual, experimentally applied to the Oncology Network theme, with the following founding elements: Accreditation and standards of excellence; Telemedicine, Communication and empowerment of patients, caregivers and associations, Multidisciplinary management, Second opinion, Resource optimization with sharing of innovative specialist figures, Ultra-specialist professional training, Management of waiting lists and fast consultation path. It is a strategic organizational model: "from research to health management", innovative, which allows us to respond to health needs in the oncology field.

Conflicts of interest related to this abstract: None

L-2029

Towards excellence in results through continuous improvement: 10 years of the E = MC2 model.

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Introduction

The participation of people (patients, families, and professionals) is a strategic factor in improving the quality of care and increasing its value. By incorporating methodology into the knowledge and experiences of people, we obtain the necessary elements to configure a completely transformative management and improvement model. In 2014, our Hospital conceptualized its strategic improvement model inspired by Einstein's formula $E = MC^2$, in which, to achieve Excellence (E) through a triple approach, it is necessary to:

- Incorporate the Knowledge of professionals (C): protocols, clinical practice guidelines, safety.
- Explore the experiences of Clients (C): qualitative and quantitative approach.
- Consolidate changes through a Method (M) of process management.

Over the years, 139 projects have been undertaken (clinical processes, functional organization, structures and spaces, care models, and new services). These projects have been carried out in all care areas of the Hospital, incorporating the active participation of patients, families, and professionals.

Aim/Objective(s)

General: Achieve excellence through a triple approach, placing people at the center.

Specific:

- Explore and detect elements that improve the quality of care (effectiveness, safety, efficiency, and experience of patients and professionals).
- Encourage the participation of people in the co-design of solutions to promote innovation and a culture of continuous improvement among professionals.
- Raise awareness and bring the voice of patients and families closer to professionals.

Methods

The approach to projects under this model is led by the Department of Quality and Patient Experience. However, the role of the multidisciplinary care team is crucial throughout the process, making their commitment and involvement indispensable.

- Customer Service Team, through the VOP (Voice of Patient) model. This team provides all the information collected from patients through various channels: recurring surveys, complaints, comments on social networks, thanks... beyond the NPS or CSAT index.
- Processes Team, expert in the application of LEAN Healthcare methodology, essentially impacting organization, efficiency, safety, and indirectly, patient experience.
- Patient Experience Team, which works mostly with Design Thinking methodology, projective techniques, and qualitative research.

These teams have developed an integrated methodology that spans different phases, allowing for the identification of issues from both patient and professional perspectives. Solutions are then collaboratively designed, incorporating input from all relevant stakeholders.

Results

Since the inception of this model, all care areas of the Hospital have been addressed (emergency, hospitalization, outpatient consultation, critical care, surgical, etc.), encompassing a total of 139 projects. The overarching goal is to enhance the Hospital by prioritizing the needs of patients, families, and professionals, thereby improving

outcomes in clinical performance, experience, and efficiency. Apart from the specific improvements arising from each project, some notable global results include:

- An aggregate NPS index of 72.44, with sustained NPS ≥ 80 in the areas of pediatric hospitalization and the Women's Area.
- A 34.5% increase in expressions of gratitude (979) compared to complaints (338).
- Achievement of 65 high complexity accreditations at both national and European levels.
- 1385 notifications of incidents (or near incidents) related to safety.

Furthermore, the results indicate that E = MC2 is a valuable tool for enhancing quality, fostering a culture of continuous improvement and raising awareness among professionals the needs of patients.

- 30% of professionals have participated in improvement projects (N = 830).
- 647 patients and families have been involved in projects.
- 57 VOP reports for managers have been prepared and disseminated
- 22 projects are on the waiting list at the request of various Hospital professionals.

Conclusion

- The triple approach E = MC2 is applicable to various areas with a methodology adaptable to any organization. This model contributes to enhancing the value of care by achieving better results with greater safety, promoting efficiency and sustainability, and improving the user experience.
- The projects addressed serve as catalysts for change, fostering a culture of comprehensive care centered on individuals (patients, families, and professionals). The full involvement of healthcare professionals in the exploration and co-design processes facilitates their commitment to implementing changes and improvement actions.
- It is crucial to respond to the demands of professionals who are keen on improving the quality of care they provide, in

order to promote and disseminate the culture of continuous improvement.

- Exploring initiatives from other sectors and incorporating the voice of patients and families through methodologies that encourage creativity helps us discover more innovative solutions.

- Finally, the implementation of the E = MC2 model necessitates a high level of leadership, participation, and commitment from Management. Genuine and ethical commitment is essential to addressing the needs of the individuals (patients, families, and professionals) who have dedicated their time to improving the organization.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: INNOVATING SURGICAL CARE: EFFICIENCY, SAFETY, AND PATIENT EXPERIENCE

L-2030

A longitudinal study of a machine-based algorithm to implement the comprehensive complication index after surgical procedures into an EHR

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Introduction

The comprehensive complication index (CCI) is the gold standard for assessing morbidity throughout a postoperative course of individual patients, enabling data comparability across multiple levels of care. Derived from the Dindo-Clavien (DC) score, the manual assessment (mCCI), although described in a standardized way, is prone to human error due to numerous external and internal factors such as limited attention to detail, interruptions in continuity of care, and lack of time. Machine-based algorithms and automated assessments (aCCI) from electronic health records can mitigate the the potential of error by simultaneously providing high-quality data for steering and interpretation of surgical quality.

Aim/Objective(s)

The proposed study explored the possibility of machine-based algorithmic assessment of the CCI compared to manual assessment and hypothesized that aCCI offers greater accuracy and precision in evaluating overall complication rates. Patients undergoing elective or emergency surgery at a German tertiary care center were assessed over 3 months in a longitudinal quality implementation program. The data were evaluated manually and simultaneously analyzed using an automated algorithm embedded in the electronic health record. Data were collected and cleared for duplicate cases (e.g. one patient with multiple admissions delivers multiple cases) and evaluated accordingly. The primary endpoint was the accuracy of the two methods using the correlation of mCCI and aCCI. Secondary endpoints included the number of DC 1 to 5 complications and their categorization. Moreover, a detailed analysis was performed analyzing the trigger points and gaps of both the manual and the automated assessment to optimize the performance of the system.

Methods

Descriptive statistics included age, sex, ASA score, diagnosis, and surgical procedure. DC-coded complications were tracked daily, and the CCI was calculated accordingly. The mCCI and aCCI scores were correlated using Bland-Altman-Plotting. A special focus was put on a gap analysis that identified patterns of complications that were overlooked or overrepresented in the two groups. A p-value of <0,05 was regarded to represent significant differences.

Results

A total of 383 patients were assessed during, with 29 excluded due to various reasons. Patients had a median age of 56.4 years, 37.3% were female, and the majority (79.6%) had ASA status II/III. The largest treatment groups included colorectal surgeries (n = 82), hepatopancreatobiliary surgeries (n = 55), appendectomies (n = 45), hernia repairs (n = 39), cholecystectomies (n = 38), and proctological operations (n = 25). Major surgeries were performed in 49.7% (n = 176) of cases. The mean aCCI was 28.0 compared to 17.5 for mCCI. The mean delta-CCI was 3.57 (95% CI: 1.39-5.75). The aCCI was higher in every treatment group. The largest discrepancies in complication detection were observed in DC 1 and 2. Automated assessment detected significantly more DC 2 complications (661 events vs. 220 in the manual group), while mCCI overreported DC 1 events (229 vs. 141 in aCCI). Detection rates of DC 3a (44 vs 50), 3b (47 vs 52) and 4 (35 vs 31) were comparable between groups. Six patients (1.6%) died during the investigational period. However, an additional 16 patients had a CCI of 100 or higher despite being alive (which is possible). The aCCI incorrectly assigned a CCI of 0 to two deceased patients falsely triggered by a value of 100.

Conclusion

This longitudinal quality study of aCCI vs. mCCI demonstrated the feasibility and success of implementing automated CCI assessment within an electronic health record. The aCCI consistently yielded higher complication scores, driven primarily by improved detection of DC grade 2 complications, which are often underreported in manual assessments and in publications. However, the algorithm still has potential for improvement, particularly in distinguishing and classifying planned versus unplanned interventions. Future steps include adapting it to a different electronic health record provider including an AI-based real-time BI-dashboarding system. will be he next logical step. The aCCI has the potential to simplify complication assessment after surgical procedures. This reduces workload and enables steering and real-time supervision of complications in a surgical department. It enables objective comparability between specialties and indications and secures transparent complication reporting in the scientific world which still seems a more comic opera. Moreover, the algorithm can be rolled out to other electronic health records with the present White Paper algorithm and may be adapted to local clinical standards and practices.

Conflicts of interest related to this abstract: None

L-2031

A Patient-focused Approach for the Surgical Treatment of Cervical and Endometrial Cancer using the da Vinci robot

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Introduction

Every year 3.5 million people are diagnosed with malignant neoplasms in the European Union (EU), 1.3 million of which result in death. In Poland, incidence rates have been steadily trending upwards for years while treatment outcomes consistently lagged behind other EU and developed countries. Our project is in line with one of the key European Commission health initiatives under the Europe's Beating Cancer Plan. As part of this initiative, 113 robotic surgeries (w tym 21 pacjentek z rozpoznaniem rakiem szyjki macicy i 92 pacjentki z rozpoznaniem rakiem trzonu macicy) were performed free of charge for qualified patients at Szpital na Klinach in Krakow, part of NEO Hospital Group. The main goal of this prospective, randomized, single-center study is to conduct research and development (R&D) and validation of robotic total mesometrial resection (TMMR) and peritoneal mesometrial resection (PMMR) in the treatment of select cervical and endometrial cancers, respectively.

Aim/Objective(s)

Minimizing the degree of tissue trauma is an undeniable advantage of the da Vinci robotic surgical system. Specifically, it provides a high degree of precision by combining 3D Full-HD visualization with miniaturized surgical instruments that support wristing to reduce soft tissue and nerve injury. It also enables access to structures in the lower pelvis that are often difficult or impossible to reach using open or laparoscopic techniques. Gynecological neoplasms, especially endometrial, are associated with a high prevalence of postoperative complications due to comorbidities such as obesity, hypertension, diabetes, and cardiovascular disease and therefore lead physicians toward more conservative, nonsurgical treatment instead. In the case of obese female patients, robotic surgery reduces the incidence of postoperative complications seen in open approaches. This shortens the length of hospitalization and recovery thereby improving quality of life and accelerating the initiation of adjuvant therapy.

Methods

During the inpatient stay, patients were assessed for pain using the Visual Analogue Scale (VAS), intraoperative blood loss (measured in mL), intraoperative and postoperative complications according to the Clavien-Dindo classification, and quality of life using dedicated EORTC questionnaires. In addition, continuous studies were conducted on the quality of life of patients diagnosed with malignant cervical and uterine body cancer before and after robotic surgery. Upon admission to the hospital (preoperative period) and during each followup visit (a. followup 2 weeks after surgery; b. followup 6 weeks after surgery; c. followup 6 months after surgery), patients completed the appropriate EORTC questionnaires:

- EORTC QLQ-C30 questionnaires – (The European Organisation for Research and Treatment of Cancer Quality-of-Life Questionnaire) (completed by all patients)
- EORTC QLQ-CX24 questionnaires (for patients with cervical cancer)
- EORTC QLQ-EN24 questionnaires (for patients diagnosed with uterine body cancer) (The European Organisation for

Research and Treatment of Cancer Quality-of-Life Questionnaire).

Results**The key conclusions:**

- Intraoperative blood loss was lower than anticipated, with most cases measuring below 50 ml.
 - Pain assessment during the first postoperative day revealed significantly lower pain levels than expected, with 94% of the operated patients reporting pain intensity of up to 6 on a 10-point scale.
 - On each subsequent postoperative day, all study participants experienced a reduction in postoperative pain.
- 799 quality-of-life questionnaires were administered during the study. Patient feedback was collected prior to the surgical treatment and during follow-up visits:
- A reduction and complete resolution of pain symptoms were observed at subsequent follow-up visits.
 - Daily physical activity remained unchanged over the 6 months following the surgical treatment.
 - Surgical treatment did not lead to a deterioration in the patients' quality of life
 - Robotic surgery did not adversely affect the emotional and cognitive functions of the patients postoperatively or during the 6-month observation period.
 - The overall health status, as perceived by the patients, remained unchanged throughout the observation period following the surgery.
 - No disturbances in sexual activity were observed post-surgery. Moreover, the resolution of pain symptoms and genital bleeding enabled patients, who had previously refrained from sexual activity due to these issues, to resume it.

Conclusion

Research and development work has shown that surgeries performed using robotic assistance are safe and particularly valuable for patients with comorbidities, especially those with obesity and diabetes, for whom robotic surgery offers an opportunity to perform procedures using minimally invasive techniques. The use of a robotic system, particularly in obese women, eliminates the risk of abdominal wall separation during postoperative wound healing, thereby reducing the likelihood of late complications. Additionally, it shortens the duration of hospitalization and convalescence, and positively impacts the quality of life of the patients. Faster healing of postoperative wounds compared to open procedures allows for the immediate initiation of any necessary adjuvant therapies.

Conflicts of interest related to this abstract: none

L-2032

Femoral Fracture Surgery Fast Track

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Introduction

National and international guidelines by official benchmarking and case studies with academically validated results have challenged operational teams to aim for clinical reference excellence. International studies demonstrated correlation between early surgery (24h - 48h) and in-hospital mortality, which led to a clinical reflection and a more detailed analysis. In this context, and referring to the reality at the beginning of 2024, there was a concern about the in-hospital mortality rate of patients with femoral neck fractures (FNF) eligible for surgical treatment, which increased from 3% in 2022 to 7% in February 2024. The internal evolution of this indicator and the comparison with the

national benchmarking highlighted the need to analyze this process in depth and, consequently, implement improvements to it. Studies demonstrate a high correlation between early surgery (under 48 hours) and in-hospital mortality, which is a priority indicator/objective nationally.

Aim/Objective(s)

The general goal of the project focused on reducing in-hospital mortality for patients undergoing surgical treatment for femoral neck fractures from 7.1% in February 2024 to below the 4.2% seen in 2023. To achieve this, it would be necessary to reduce the average time from the patient's entry at the emergency room to the respective surgery, ensuring that this timing was below 48 hours (compared to the previous 80 hours), aiming for excellent performance in this clinical area. When compared to other Hospitals in the same group, Cascais was in third place in the Benchmarking, which also corroborated the need to review the process. As a complementary objective, the team intended that these results would translate into the best performance of comparable hospitals in the national benchmarking, corroborating the pursuit of best clinical practices.

Methods

To define the main stages of implementation of this project, a process analysis was carried out, with an extensive mapping of the patient's journey from their entry into the Hospital until surgery, identifying the main procedural bottlenecks and the priority focuses of action, with a multidisciplinary team.

Highlight of the main changes:

- Request for an initial X-ray by the triage nurse;
- New anticoagulant interruption protocol;
- Preparation of formal procedure on the quick access intranet;
- Preoperative complementary means of diagnosis protocols (agreement between Orthopedics and Anesthesiology);
- Quick access menu in the sidebar of the medical desktop (e.g. protocols, informed consents, Anesthesiology consultation requests);

Some IT tools were also developed:

- Automatic Fast Track triggers based on the flowcharts and discriminators selected in the Manchester Triage;
- Fast Track cockpit on the medical desktop;
- Fast Track iconography across different professionals;
- Automatic SMS alert messages for various professionals (e.g. request for an Anesthesiology consultation).

Results

This project has demonstrated tangible and intangible impacts, with results in terms of quality, safety and process efficiency. The optimization and standardization of the process allowed a reduction of more than 50% in the average door-to-surgery time for patients undergoing this procedure. The average door-to-surgery time now stands at 42H for the global average for the year, reaching 32H in November 2024, considerably below the target of 48 hours. More than the average objective, it was found that a notable number of patients (96% in November 2024) had their surgery in less than 48 hours, compared to just 75% in the initial scenario in February. This unique achievement of reducing the average door-to-surgery time places the current average performance (42 hours) of Cascais Hospital as the best in its group in the Portuguese Benchmarking. As initially mentioned, the main objective of this project was to reduce the in-hospital mortality rate associated with these patients. The final results show an incredible drop in this rate to 3.6% in 2024, whereas in November 2024 it was 0%! This is the Hospital's main source of pride, motivating the pursuit of similar projects in other clinical areas.

Conclusion

Since the main bottlenecks that were identified during the needle-hold time were located in the final phase of the process (entry into the Block and Preparation of the patient), two fundamental clinical protocols were developed for the standardization and rigor of the process (Approach to the hypo-coagulated patient and Timely Treatment of Femoral Neck Fractures). In this way, a deep clinical reflection was carried out on the approach to this patient, international guidelines that substantiated the best practices in this process were studied. In addition to all the features described above, process and result indicators were frequently monitored, allowing continuous adjustments and procedural improvements, as well as measuring the benefits for the patient. The basic structural changes were simple process re-engineering, which allows the same principles to be replicated for other health units and other services. The introduction of automation and alerts at a more advanced stage of the project was the innovative technological complement that supports standardization and supports clinical decision-making, ensuring complete tracking of these patients. The strong clinical leadership, the methodological and academic rigor, as well as the involvement of top management, as critical success factors, ensuring a great alignment of objectives and resource availability.

Conflicts of interest related to this abstract: None

L-2033

"IMPLEMENTATION OF SAFETY PROTOCOLS TO REDUCE COMPLICATIONS IN POST-BARIATRIC PLASTIC SURGERIES IN THE UNIFIED HEALTH SYSTEM (SUS) – BRAZIL"

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Introduction

Post-bariatric plastic surgery is essential for patients who lose significant weight after bariatric surgery, addressing issues like excess skin that can cause dermatological complications, mobility problems, and psychological impacts. In Brazil's Unified Health System (SUS), the demand is high, and resources are limited, requiring a structured care plan to ensure equitable access, quality care, and sustainability. Obesity is a prevalent chronic condition, and bariatric surgery is an effective treatment. However, a significant consequence is excess skin, making post-bariatric plastic surgery necessary both functionally and psychologically for many patients. Developing safety protocols for post-bariatric plastic surgery in the SUS is crucial to improve care quality, reduce complications such as infections and thrombosis, and ensure better outcomes. These protocols should cover pre-operative assessments, post-operative care, preventive measures, and proper pain and infection management. This study aims to investigate the importance of these protocols for improving patient care and quality of life

Aim/Objective(s)

1. Implement security protocols to reduce complications in post-bariatric plastic surgeries in the SUS (Unified Health System)
2. Evaluate data obtained from the SUS

Methods

Observational, descriptive, and retrospective study, in which an analysis will be conducted on the medical records of patients who underwent post-bariatric plastic surgeries in the SUS (Unified Health System). The study will focus on postoperative

complications, such as infections, thrombosis, among others, and will evaluate the application of security protocols in each case. – Data Collection: Data Source: Medical records of patients who meet the inclusion criteria. Variables of Interest: Age, sex, comorbidities, BMI (Body Mass Index) before and after bariatric surgery. Details about the safety protocol adopted during and after surgery (use of antibiotics, anticoagulants, surveillance, etc.). Type of plastic surgery performed (abdominoplasty, mastoplasty, etc.). Postoperative complications: infections, thrombosis, hematomas, among others. Length of hospital stay, need for re-intervention, clinical evolution. – Analysis of Safety Protocols: Evaluate which safety protocols were implemented for each patient (such as infection prevention, thrombosis prevention, etc.), comparing them with the occurrence of complications.

Results

This study reveals significant findings regarding post-bariatric surgery in SUS patients, highlighting that the most prevalent age range is 40 to 50 years, was mostly performed in women (91 versus 9 men). Furthermore, 64% of patients presented comorbidities, highlighting the importance of a multidisciplinary approach to care. Abdominoplasty was the most frequently performed procedure. The study founded that there is a low complication rate (11 out of 100 patients), proving that effective prophylaxis measures, such as the use of antibiotics and anticoagulants, and the use of abdominal drain during a abdominoplasty are important to prevent complication. No hospital readmissions were recorded within 30 days, indicating successful postoperative management. Finally, all patients reported functional improvements, and complications, although present, did not significantly affect the final results. These findings suggest that, with proper management, post-bariatric plastic surgery can be safe and beneficial for patients, improving their quality of life.

Conclusion

The implementation of safety protocols in post-bariatric plastic surgeries within the Unified Health System (SUS) aims to reduce complications and improve the quality of care for patients. This study demonstrated that adopting systematic measures, such as standardizing post-operative care, continuous monitoring, and multidisciplinary follow-up, can significantly reduce the risk of complications, promoting a safer and more effective recovery. By analyzing the reality of SUS, the importance of strategies that align clinical practice with patient safety was highlighted, especially considering the growing demand for bariatric and aesthetic procedures. This approach contributes to improving healthcare services by ensuring more effective and higher-quality care, as well as optimizing available resources in the public system. Innovatively, the proposed protocols can serve as a foundation for future public policies that integrate patient safety within SUS, while also inspiring new research on the impacts of safety practices in public health. This work also encourages reflection on the need for continuous improvement in healthcare management, with a focus on evidence-based practices, to ensure excellence in care for SUS users.

Conflicts of interest related to this abstract: None

L-2034

Mixed-methods research: Preoperative Anxiety and Pain in Short-day Surgery Patients in Taiwan

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Introduction

Surgery is a critical moment in life, often accompanied by emotional responses from patients. Surgical anxiety is common and can lead to adverse medical outcomes such as increased post-operative pain, higher doses of anesthesia, and prolonged recovery periods. Alleviating surgical anxiety not only improves patient welfare but also enhances the overall efficiency and outcomes of surgery. In Taiwan, an increasing number of surgeries can be performed without prior hospitalization, making short-day surgery a viable option to reduce waiting times. Although short-day surgery carries lower risks and difficulties than inpatient surgery, patients may have less access to medical information. Anxiety can arise from the numerous uncontrollable factors and lack of information during the surgical process. While reducing hospital stays and medical costs, it is worth investigating whether there are differences in patient anxiety and pain under different care approaches.

Aim/Objective(s)

This prospective mixed-method study investigated the anxiety and pain status of patients undergoing short-day surgery and routine inpatient, and provided a deeper understanding of the experience of preoperative anxiety in patients undergoing short-day surgery.

Methods

Utilizing convenience sampling, the study enrolled 100 participants each in the short-day surgery and routine inpatient groups at a medical center in Northern Taiwan. For the routine inpatient group, questionnaires were collected at: while patients waited in the ward on the day of surgery, in the preoperative waiting area, on the day of discharge, and ten days after discharge. For the short-day surgery group, the first data collection occurred immediately after check-in at the surgery counter, with subsequent collections mirroring those of the routine group. Data collection included basic demographics, State-Trait Anxiety Inventory, Amsterdam Preoperative Anxiety and Information Scale, and visual analogue scales for anxiety and pain. The analysis was conducted using SPSS 25.0 and Generalized Estimating Equations. For qualitative interviews, purposive sampling was used to select 30 participants from the short-day surgery group for a single semi-structured interview, which was analyzed using inductive content analysis.

Results

There were no significant demographic differences between the short-day surgery group and the routine inpatient surgery group, with both groups exhibiting moderate levels of preoperative anxiety. Specifically, on the Amsterdam Preoperative Anxiety and Information Scale (APAIS), the short-day surgery group scored slightly higher (8.31 ± 3.28) compared to the routine inpatient group (7.94 ± 3.259). Using the Visual Analogue Scale for Anxiety (VASA), preoperative anxiety was significantly higher in the short-day surgery group compared to the routine group, reaching a statistically significant difference ($p < 0.000$). Anxiety measurements taken at four different times showed that anxiety levels were significantly higher in the short-day surgery group by 1.420 points ($p < 0.000$), indicating higher anxiety levels in this group. Regarding pain, the primary outcomes showed that the pain intensity was significantly greater in the short-day surgery group compared to the routine inpatient group, with an increase of 1.710 points ($p < 0.000$). After conducting semi-structured interviews with 30 participants

from the short-day surgery group, an analysis of the factors contributing to preoperative anxiety identified three main themes: (1) unclear surgical information, (2) uncertainty regarding surgery, and (3) negative feelings about the surgery.

Conclusion

Preoperative anxiety is higher in the short-day surgery group than in the routine inpatient group, a result that is inconsistent with previous studies. This may be because short-day surgery need to complete preoperative preparations in a short time, and due to Taiwan's universal health insurance, most patients believe that performing related exams and preparations in the hospital after admission allows for a more relaxed approach. Short-day surgery, however, must complete these exams and preparations during outpatient visits and at home after returning, possibly increasing psychological stress. Interviews revealed that higher preoperative anxiety in the short-day surgery group is caused by a lack of understanding of surgical details and the admission process. Additionally, brief outpatient consultations make it difficult for patients to fully understand treatment information, increasing their anxiety. Preoperative pain is also higher in the short-day surgery group compared to the routine inpatient group, possibly because inpatients can have their pain controlled during their hospital stay, whereas short-day surgery have no pain relief measures other than oral medication before surgery. Literature indicates that anxiety can lower the pain threshold, suggesting that the higher preoperative anxiety in short-day surgery could also make their pain perception more significant.

Conflicts of interest related to this abstract: None

L-2035

Op Time – Optimising Theatre Time and Minimising Inefficiencies

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Introduction

Healthcare resources face increasing strain from rising demand, an aging population, and chronic diseases. This necessitates optimal resource management, particularly in Operating Theatres where surgical time slots are limited. The challenge lies in maximizing efficiency without compromising patient care or staff well-being. To address this, healthcare providers must implement innovative solutions. These include advanced scheduling systems, optimized patient flow, and data analytics for demand prediction and management. Human factors to streamline protocols and processes would also help reduce inefficiencies. The goal is to balance efficiency measures with strategies to prevent staff burnout. By doing so, healthcare facilities can optimize their resources while maintaining high-quality care and a sustainable work environment. This approach is crucial in addressing the complex problem of limited resources, increasing workloads, and the risk of staff fatigue in the healthcare sector.

Aim/Objective(s)

The project at NUH focuses on enhancing operating theatre efficiency by addressing key issues like delayed first case start times and lengthy turnover periods between surgeries. The team implemented a series of interventions, including standardized workflows, improved communication channels, and visual cues to streamline processes. The objective is to achieve:

- Start time for first case: 50% Improvement in the number of punctual first case start time at 0830H, from 37% of lists, in 6 months

- Turnover between cases: 20% reduction in the number of cases taking >15 minutes for OR turnaround time (for same surgeon), from 19%, in 6 months

These improvements aim to optimize theatre utilization, reduce inefficiencies, and ultimately enhance patient care by allowing for more procedures to be performed within the same timeframe.

Methods

A multidisciplinary team comprising members from Surgery, Anaesthesia, Nursing, and Operations collaborated to conduct an in-depth analysis of the underlying issues and develop a new workflow solution. The team employed various analytical methods, including Value Stream Mapping, Root Cause Analysis, and PICK charts, to develop improvement strategies.

This proposed workflow was implemented as a pilot program in the Kent Ridge Wing Operating Theatre (KRWOT) from December 2023 to May 2024. The project team compared the number of late starts and prolonged turnover time monthly throughout this period with that prior to the intervention. Further optimization to the solutions were done for further improvements and sustainability. To ensure sustained improvement, the team continued to monitor and analyse data for an additional six months, extending the observation period until November 2024, for a total duration of 12 months.

Results

The implemented strategies have yielded significant improvements in operating room efficiency. Punctual surgery commencement has increased dramatically, with nearly 90% of cases now starting on schedule at 8.30am, a substantial improvement from the previous 37%. Additionally, turnaround times have shown positive results, with an average enhancement of 5.5% (a 25-30% improvement from pre-intervention) over a 12-month period. Despite an increase in surgical caseload by about 10-15%, there was no increase in surgical lists that end late. These improvements have helped maintain a low average of 7% cases that end past scheduled surgical list timings. Of note, most of the solutions involve streamlining and optimizing workflow inefficiencies and protocols, which improved the operating room efficiencies without an increase in staff workload or incurring expensive solutions. Staff satisfaction is also improved as there is fewer late equipment requests that can result in a rushed surgical equipment preparation. Logistical and administrative issues like consent forms were also reduced.

Conclusion

The newly implemented workflow demonstrates long-term financial viability. Small adjustments in procedure and protocol were implemented at several different steps of the patient journey to limit increased care burden on any one stakeholder. There were thus no significant increase in staff workload; also there is less rush to prepare equipment from late requests, improving staff efficiency and satisfaction. Also, there is no significant increase in cost to implement the solutions. The improved operating room utilization has decreased idle time in our operating room schedules, enabling us to provide for increased number of surgical procedures over the trial period without resulting in overrunning surgical lists. The use of a multi-pronged approach in solutioning the efficiencies of operating theatre usage has improved OT utilisation rates and allowed increased caseload without a corresponding increase in OT overrun rates. Implementation of standardised timing protocols has also allowed staff to obtain OT listing information in a timely manner to facilitate efficient surgical preparation.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: STRENGTHENING SYSTEMS FOR SAFER, SMARTER, AND MORE PERSONALIZED CARE

L-2036

Caring for persons rather than pathologies: fostering mental health and well-being in an Italian oncology department

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Introduction

As concerns psychological balance of cancer patients, in literature it is underlined that 25–48% of anxiety symptoms and 58% of their depressive symptoms are considered as significant, formulating a diagnosis of adjustment disorder in 65% or mood disorder in 18% of the latter cases. Besides this, studies highlighted that people with serious illnesses can report a good quality of life and subjective well-being, thus showing the mediating role of psychological adaptation to illness and emotional distress. Patients' attitudes towards pain management are influenced by their pain knowledge and caregivers' attitudes. The quality of daily subjective experience is predicted by perceived challenges, opportunities for action and skills in facing activities. The presence of a family support system, adaptive coping strategies, adequate knowledge of the disease and effective methods of disease management can be considered protective factors for the promotion and enhancement of psychological well-being and sense of coherence.

Aim/Objective(s)

To support cancer patients and caregivers' emotional suffering, and foster mental health and well-being, in February 2022 the Department of Oncology at Luigi Sacco Hospital structured a psycho-oncology clinic, welcoming people affected by any type of cancer under active treatments and in follow-up. It offers:

1. consultancy and support paths with the aims of intervening in psychological discomfort to alleviate burden and symptoms, and fostering well-being and mental health;
2. screening and monitoring of psychological symptoms that can arise following highly stressful or traumatic events to which oncological patients and families are exposed.

To improve scientific knowledge, in 2023 the Lombardy Ethical Committee approved a research project deepening into the impact of physical symptoms, awareness of illness, the presence of activities and structured social contexts in daily life on anxious/depressive symptoms, and mental health and well-being among patients with localized and advanced/metastatic solid cancer.

Methods

During the first psycho-oncologic visit, a clinical interview and self-administered questionnaires as follow, assess emotional and psychological difficulties and resources: *Barthel Index (BI)*; *Revised Illness Perception Questionnaire (IPQ-R)*; *Clinical Outcome in Routine Evaluation Outcome Measures (CORE-OM)*; *Hospital Anxiety and Depression Scale (HADS)*; *Mental Health Continuum Short Form (MHC-SF)* and *Benefit Finding Short Form (BF-SF)*, and for caregivers also *Caregiver Burden Inventory*; *Adult Carers Quality of Life Questionnaire*. After that, the work objectives are defined and carried out within 8 meetings. Cognitive-Behavioral techniques involve people in a process of awareness of the dysfunctional mechanisms that fuel their discomfort, activating new functional strategies and well-being.

If psychological or psychiatric symptoms emerge, patients are advised to turn to specialists such as psychiatrists or psychotherapists. A collaboration network between specialists of the Hospital Centre for Treatment of Depressive Symptoms is activated through a program called On.PSI, with handovers and short summary reports in accompaniment.

Results

Through three years programs, 230 patients and 30 caregivers grasped to the psycho-oncologic clinic, with 600 visits per year. Patients were predominantly women (70%), median age 57,5 (27–84yrs), 70% with localized cancer. After eight sessions (approximately six months) of the psychological support path, all participants significantly decreased in anxious/depressive symptoms (for depression $\chi^2 = 5.5$, $p < .05$ and for anxiety $\chi^2 = 6.9$, $p < .01$) and showed a higher score in psychological than in hedonic and social well-being, with a significant amelioration in mental health ($\chi^2 = 4.72$, $p < .05$). Moreover, 32 patients were suggested to contact a psychiatrist, joining On.Psi. program, meeting a diagnosis and starting a specific pharmacological treatment. Finally, preliminary research data found through simple regressions that the presence of work had a significant effect on patients' depressive symptoms ($\beta = 0.28$, $p = 0.04$, $R^2 = 0.08$), while hobbies had a significant effect on depression ($\beta = -0.31$, $p = 0.04$, $R^2 = 0.10$) and anxiety ($\beta = -0.32$, $p = 0.03$, $R^2 = 0.10$). Friendships significantly affected social well-being ($\beta = 0.34$, $p = 0.02$, $R^2 = 0.12$) and personal growth ($\beta = 0.36$, $p = 0.02$, $R^2 = 0.13$). A multiple regression model of cancer-related and daily life variables on depression was significant ($p = 0.04$, $\text{Adj}R^2 = 0.21$). Specifically, being under treatment ($\beta = 0.37$, $t = 2.10$, $p = 0.04$) and having structured friendships ($\beta = -0.35$, $t = -2.20$, $p = 0.04$) had significant effects on depression.

Conclusion

In studies related to psycho-oncological support services, approximately one fourth of women and one tenth of men request psychological support through their doctors and put the percentage of patients who asking for support to 40–50. For this reason, the psychological support provided through a structured and accredited service could allow patients and their caregivers to establish better adherence to treatment, a greater response to it and a higher quality of life, both from a relational and individual activity engagement viewpoint, reducing periods of absence to work and family contexts due to illness, and encouraging the cultivation of their activities with clear benefits on the economic and quality of life level. Finally preliminary research results suggested that having a job appears to be a risk factor for depressive symptoms. Hobbies seemed to have a protective role in depression and anxiety symptoms, while friendships predicted higher social well-being and personal growth. Being under treatment increased depression, while

having friendships seemed to reduce it. These findings contribute highlighting the specific separate patterns of predictions to well-being, and anxious-depressive symptoms reinforcing practitioners' habits of providing personalized support for individuals' needs.

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L-2037

Development of Hospitals at home around the world: lessons and perspectives

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Introduction

The first hospital at home (HaH) opened in France in 1957. Since, HaH were created all over the national territory. In 2023, there were 281 hospitals at home in France, providing 7 million days of home hospitalization to 168 000 patients. The activities of the French HaH have been expanding with a strong focus on older adults. 10% of the activity happens in nursing homes and the casemix is heavily oriented towards palliative care, pain relief and complex wounds. HaH are blossoming in many international countries around the world, especially since the Covid-19 pandemic. In 2024, we found more than 40 initiatives of HaH in various countries and 3 countries provide more than a million days of HaH (France, Australia and Spain). The HaH opening today have learned the lessons from traditional HaH such as the French ones. They build specialized logistic platforms and reap the benefits of new technologies.

Aim/Objective(s)

The aim of our study was to take stock of the development of HaH internationally. Home hospitalization is a set provider in the French healthcare system offering a wide range of care at home. But the French HaH are adapting to new technologies at a slow pace and lessons can be learned from other countries with a different history and organization. We wanted to understand why an HaH offer is created in other countries, what its priorities and goals are, how it is organized and which tools they are using. Our aim was to share the lessons and perspectives learned from international HaH with the French authorities and care providers to set the pathway for future developments.

Methods

Our study was based on two sets of data:

- Interviews with national experts and members of scientific societies of HaH (in France, the USA, England, Singapore, Spain...).
- Literature search: we reviewed scientific publications on HaH but also activity reports of national HaH societies and communications at the past World Hospital at Home conference.

Results

Through interviews and literature, we studied the organization of HaH in about 40 countries around the world, identifying three main categories: countries that have been developing HaH for

years and have developed an national framework for HaHs (including financing conditions), countries that accelerated the development of HaH during or after the pandemic and countries that have local / experimental experience with HaH. We identified a global trend of developing HaH solutions based on economical or resource constraints and a heavy role of medical doctors "pioneering" specialized care in the home of their patients. Treatments and care is getting more complex as illustrated by the evolutions of Casemix. New technologies such as point of care diagnosis or telehealth are tools used to provide hospital level care in the homes and allow to completely avoid a stay in the "brick and mortar" hospitals. We also learned about the new "virtual" solutions, as well virtual wards and virtual hospitals, and the necessity for HaH to always based their intervention on physical care to ensure patient safety. The role of nurses and advanced practitioners is crucial to the development of HaH on a big scale.

Conclusion

We identified 6 key takeaways from our international study:

- (1) Home hospitalization is undoubtedly a care offer that will grow quickly in the coming years thanks to its many advantages compared to traditional hospitalization.
- (2) To face current challenges related to the shortage of healthcare resources, a paradigm shift is necessary to systematize the use of HaH whenever possible and to set clear activity targets.
- (3) The development of the HaH offer requires strong medicalization and the development of research.
- (4) The development of digital technology, e-health and artificial intelligence is essential to make the HAD offer more efficient and relevant, allowing a wide territorial coverage while preserving scarce human resources.
- (5) The use of centralized logistics solutions is a lever for coordinating increasingly large flows and overcoming aspects that are potentially blocking the development of HAD, such as medications, visits, and even meals.
- (6) Finally, in order to be sustainable, this model must be based on HaH providers with large, efficient and modern capabilities.

Conflicts of interest related to this abstract: None

L-2038

Identifying Variable Care Delivery Steps to Best Target AI Interventions for STEMI Care Impact

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Introduction

The time from patient arrival in an emergency department (ED) to completion of an early electrocardiogram (ECG) test is key to a timely STEMI diagnosis. For this interval, a quality benchmark of 10 minutes has been well established by international cardiac and emergency medical associations. EDs have a standard approach for screening patients for a potential STEMI. It involves a series of steps with sub-interval time points culminating in ECG completion, which comprises the total door-to-ECG (D2E)

time. These intervals are not well characterized, but those with the greatest variability could be targets for interventions to improve care delivery efficiency. Predictive modeling, machine learning, and artificial intelligence have the potential to decrease D2E times by screening patients for ACS more efficiently. An important part of understanding how these tools can be integrated into care delivery is discovering specific opportunities for process improvement.

Aim/Objective(s)

In this investigation we directly observed and time-stamped care events from ED arrival or "door" time to ECG completion in two large urban EDs. Our first aim was to describe the length and variability of the care intervals, particularly the time from patient arrival to the decision to perform an ECG (door-to-decision). Our second aim was to compare the door-to-decision time of screening by registration staff against an predictive AI algorithm running silently in the EHR in one of the sites.

Methods

We performed a 2-centered prospective cohort workflow study of the timeliness of ED screening for ACS risk. A trained research assistant sat with the ED arrival registration clerks to observe their communication and activities that determined when patients were identified for an early ECG, and were trained to recognize relevant events from ED arrival to ECG completion. We included patients arriving by ambulance and as walk-ins, during on-peak and off-peak hours. We calculated median door-to-decision, ECG decision-to-ECG order, ECG order-to-ECG initiation, and ECG initiation-to-completion in minutes. We present median times and interquartile ranges (IQRs) for each interval. A portion of the observations were done during a period when a predictive AI algorithm was silently screening all patients and recommending an early ECG for those at risk of ACS. These screening decisions did not influence patient care but were recorded in a separate database, as part of a validation phase.

Results

The median D2E time for all patients was 11.0 (IQR: 7.0, 18.0) minutes. Median door-to-decision time was 1.0 (0.0, 5.0) minutes. Decision-to-initiation time had a median of 6.9 (3.6, 13.0) minutes. Median ECG initiation-to-completion time was 2.0 (1.6, 3.0) minutes, with fully 90% of ECGs completed under 4 minutes. The median minutes from decision-to-order was 3.0 (1.0, 5.0). The median minutes between the ECG order and its initiation was 5.0 (3.0, 13.0). We observed a difference in overall D2E time by mode of arrival. The overall median for patients arriving by EMS was 17.0 (10.0, 29.0) minutes, compared to 10.9 (7.0, 17.0) minutes for walk-ins. Each time sub-interval was longer for EMS patients compared to walk-in patients. For patients who arrived during on-peak compared to off-peak hours, there was no meaningful difference in D2E median time. A total of 36 patients were screened by both the algorithm and the registration staff. The median D2E-decision time for this subset was 2.0 (1.0, 3.0) minutes for the AI algorithm and 4.5 (2.0, 7.0) minutes for the registration staff. The AI was faster in 27 cases (75.0%), the clerk was faster in 4 cases (11.1%), and they were equal in 5 cases (13.9%).

Conclusion

Optimizing activities in the ECG completion pathway can save lives and avert morbidities given the connection between timely treatment and improved outcomes for patients found to have STEMI. The time interval with the most variability leading up to ECG completion was between the ECG order and its initiation, suggesting that the communication and/or activities between those placing the order and the tech or nurse initiating the ECG has the greatest opportunity as a target for care improvement. We observed that the AI was faster and more consistently timely in making an ECG screening decision compared to the

registration clerks. This suggests potential for care improvement if the AI can make early ECG determinations with a sensitivity that matches or exceeds that of a physician or nurse decision-maker. We show that AI's benefit in predicting risk must be synergistic with human ECG completion activity to truly impact timely diagnosis. Optimization in these processes will impact those being screened for potential STEMI and may improve STEMI outcomes as part of a larger care pathway. This suggests there may be potential for process, practice, and AI innovations to improve this critical step in the STEMI chain of survival.

Conflicts of interest related to this abstract: None

L-2039

Safe Pathway for high risk pregnancy

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Introduction

High-risk pregnancies often go unnoticed in Primary Healthcare Centers (PHCs) and private healthcare facilities, leading to complications that require referral to rural hospitals like Huraymila, Thadiq, and Shaqra. Limited resources in these hospitals increase the risk of stillbirth, maternal morbidity, and mortality. Some patients may withhold critical information or avoid proper follow-up, resulting in incomplete medical histories that hinder risk assessment. Additionally, pregnancy conditions can rapidly escalate from low to high risk, requiring early detection and intervention to ensure maternal and neonatal safety. This project establishes a digital platform to store and track patient data using a unique ID, linking PHCs, private healthcare providers, and hospitals. This system facilitates timely referrals, improved coordination, and comprehensive care for high-risk pregnancies. By enhancing early detection and intervention, the project aims to reduce stillbirth rates and improve outcomes for mothers and newborns.

Aim/Objective(s)

- Establish a Coordinated Care Pathway – Develop an integrated multidisciplinary team comprising professionals from PHCs, private healthcare facilities, and governmental hospitals in rural areas to ensure effective collaboration in managing high-risk pregnancies.
- Enhance Early Detection and Referral – Implement a structured referral system supported by MOH policies and Saudi guidelines, enabling timely intervention or escalation of high-risk cases to higher medical centers and central hospitals when necessary.
- Improve Maternal and Neonatal Outcomes – Reduce maternal and fetal mortality, stillbirth rates, and pregnancy-related complications such as eclampsia, gestational diabetes, and excessive blood loss through proactive monitoring and intervention.
- Integrate a Digital Health Platform – Create a centralized patient data system linking Huraymila General Hospital, PHC Malham, PHC Huraymila, and Malham Private Health Center to provide real-time access to medical histories, procedures, and follow-ups.
- Optimize Healthcare Resources – Reduce unnecessary investigations and redundant tests, improving efficiency, saving time, and ensuring high-quality, accessible, and patient-centered care.

Methods

Methodology: This project followed a structured, multi-phase approach to enhance high-risk pregnancy management through digital tracking, early detection, and timely referral.

Data Collection and Implementation

1. Phase 1: Data Gathering & Risk Identification

- Collected reports from PHCs on pregnant women and their follow-ups.
- Identified high-risk cases (e.g., anemia, hypertension, gestational diabetes).
- Registered cases on a digital platform for tracking.

2. Phase 2: Expansion & Screening

- Implemented standardized screening in PHCs and private clinics.
- Trained healthcare providers on early intervention protocols.

3. Phase 3: Digital Integration & Monitoring

- Linked all patient data via an electronic platform.
- Ensured real-time updates, reducing redundant tests and unnecessary resource use.
- Facilitated early referrals to specialized centers.

Data Analysis: Outcomes were analyzed through hospital reports, referral data, and patient tracking, demonstrating improved maternal and neonatal health, reduced stillbirths, and optimized resource utilization.

Results

The implementation of the Safe Pathway for High-Risk Pregnancy project led to significant improvements in maternal and neonatal outcomes. Data from PHCs, private healthcare facilities, and Huraymila General Hospital showed a 52% reduction in unbooked high-risk cases, improving early detection and follow-up. Stillbirth rates decreased by 50%, from 7% to 3.5%, with the latest quarter achieving 0% stillbirths. Cases of postpartum hemorrhage requiring blood transfusion declined from 11% to 2% (80% improvement), and septicemia cases dropped to 0%. Timely referrals increased, reducing unnecessary emergency cesarean sections from 36% to 17%, with a target of 7% or less. Overutilization of resources, such as repeated tests and unnecessary investigations, declined from 60% to below 25%. The electronic tracking system improved care coordination, ensuring efficient referrals and resource optimization. These results demonstrate the project's success in enhancing patient safety, reducing complications, and improving healthcare efficiency for high-risk pregnancies.

Conclusion

The Safe Pathway for High-Risk Pregnancy project has significantly improved the early detection, management, and referral of high-risk pregnancies, reducing maternal and neonatal complications. By integrating a digital tracking system and strengthening coordination between PHCs, private healthcare facilities, and rural hospitals, the project has successfully reduced stillbirth rates, postpartum hemorrhage, and unnecessary resource utilization. The structured approach has enhanced patient safety, improved referral efficiency, and minimized emergency interventions, ensuring better outcomes for both mothers and newborns. This initiative demonstrates a scalable and sustainable model that aligns with Saudi healthcare policies and MOH guidelines for maternal care. The success of the project highlights the importance of early screening, timely intervention, and digital integration in managing high-risk pregnancies. Moving forward, expanding this model across more healthcare facilities can further enhance maternal and neonatal care, reinforcing the commitment to safe, high-quality, and accessible healthcare services.

Conflicts of interest related to this abstract: None

L-2040

Ten Years of Transformation: Key Trends in Patient Safety and Accreditation Practices"

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Introduction

This project investigates the progress and challenges in patient safety at the Royal Hospital over the past decade, emphasizing the role of accreditation in enhancing healthcare quality. By analyzing three pivotal reports from 2016, 2019, and 2023, the study showcases significant advancements in patient safety measures and offers valuable insights into the correlation between accreditation standards and healthcare outcomes. It critically evaluates essential organizational practices, including safety culture, communication, medication management, work-life balance, infection control, and risk assessment. The findings highlight notable strengths achieved in infection control and risk assessment, while also revealing ongoing challenges in communication and medication management. This comprehensive analysis underscores the necessity of addressing these challenges to improve patient safety and care quality, ultimately contributing to the ongoing development of healthcare systems in Oman.

Aim/Objective(s)

1. Evaluate the impact of accreditation standards on patient safety measures over the past decade.
2. Identify and analyze trends in principal patient safety issues observed in healthcare systems over the 10-year period.
3. Assess the effectiveness of interventions and initiatives implemented to address patient safety concerns.
4. Develop recommendations for future strategies and interventions to further enhance patient safety and quality of care based on the findings from the decade-long study.

Methods

This study investigates the progress and challenges in patient safety at the Royal Hospital over the past decade, focusing on the role of accreditation in enhancing healthcare quality. The research employs a longitudinal analysis of three pivotal reports published in 2016, 2019, and 2023, which serve as the primary data sources for evaluating patient safety measures. The main focus is about organizational practices evaluated include:

- Safety Culture: incident management, quarterly report & disclosure process
- Communication: client identification, medication reconciliation, handover process
- Medication Management: Antimicrobial stewardship, concentrated electrolytes, narcotics safety, high-alert medications
- Work-Life Balance: patient safety education, workplace-violence, client flow
- Infection Control: hand hygiene, reprocessing, infection rates
- Risk Assessment: fall prevention, pressure ulcer prevention, venous thromboprophylaxis, skin & wound care.

Results

Safety Culture showed remarkable improvement, rising from 100% in 2016 to a consistent 100% in 2023, indicating strong institutional commitment. Communication improved significantly from 50% in 2016 to 83% in 2019, maintaining that level in 2023, suggesting a stabilization but highlighting the need for continued enhancement. In Medication Use, there was a decline from 83% in 2016 to 66% in 2019, but it rebounded to 83% by 2023, reflecting a recovery in practices. Worklife balance showed a concerning drop from 83% in 2016 to 60% in 2019,

with a slight improvement to 80% in 2023, indicating recent efforts to address staff well-being. Both Infection Control and Risk Assessment demonstrated significant progress, achieving a perfect score of 100% by 2023 after improving from lower percentages in previous years. Overall, while the hospital has made substantial advancements in several areas, continued focus on communication and medication management.

	ROPs in standards Principal Patient Safety Area		
	2016	2019	2023
Safety Culture	100%	80%	100%
Communication	50%	83%	83%
Medication Use	83%	66%	83%
Worklife	83%	60%	80%
Infection Control	66%	100%	100%
Risk Assessment	66%	100%	100%

Conclusion

In conclusion, the analysis of patient safety measures at the Royal Hospital over the past decade highlights substantial progress and persistent challenges. The consistent scores in Safety Culture, Infection Control, and Risk Assessment reflect effective strategies implemented through accreditation standards, showcasing the hospital's commitment to enhancing healthcare quality. The transition to 100% in both Infection Control and Risk Assessment by 2023 demonstrates notable improvements in these critical areas, promoting better health outcomes for patients. However, the varying performance in Communication and Medication Use underscores the need for ongoing efforts to enhance these essential aspects of patient safety. While improvements were observed, particularly in recovery from the decline in Medication Use, the stabilization of Communication scores indicates potential areas that require further development and attention. Additionally, the fluctuations in Worklife balance point to the need for comprehensive strategies to support staff well-being, which is intrinsically linked to patient care quality. Overall, this study emphasizes the importance of addressing these challenges to foster a culture of continuous improvement. Enhancing communication and medication management processes will be vital for ensuring sustained progress in patient safety and ultimately advancing the quality of healthcare services in Oman.

Conflicts of interest related to this abstract: None

L-2041

Whole Genome Sequencing as part of an Integrated Personalized Preventative Care Model

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Introduction

Whole genome sequencing (WGS) tests have been available as a direct to consumer test in the United Kingdom for some time.

However, it is essential that their use is supported by robust clinical pathways, in line with best available evidence, in order to produce personalised healthcare plans for each individual patient.

Aim/Objective(s)

The aim is to assess the efficacy of clinical pathways following WGS testing.

Methods

Bupa is the first healthcare provider in the UK and in Spain to offer WGS as an end-to-end proposition to support patients in identifying and in taking preventative action to reduce their genetic susceptibility to specific diseases. A 2-year pilot was launched in September 2024 with the aim of recruiting 14,000 participants. Only those conditions which are actionable, that is, some form of preventative action can be taken, are reported. Over 300 genes and 9 polygenic risk scores were analysed, based on guidelines from the American College of Medical Genetics and Genomics. Every sample is also tested for pharmacogenomics. Primary and secondary care clinical pathways have been designed to offer appropriate support to patients after the risk of developing a disease has been identified and communicated. Outcomes and clinical pathways are analysed, with a focus on secondary care referrals. We report very preliminary results from the UK, to be updated.

Results

To date, 1,659 blood sample have been performed, with 958 results available as part of this preliminary analysis. Twenty percent of patients were found to have a single gene variant (monogenic variant), although in only 6.4% of cases was this associated with a risk of severe disease. Of this 6.4%, most patients were found to have risk of developing one or more types of cancer, closely followed a risk of cardiomyopathy. Ninety percent of patients were found to have a genetic risk of disease that could be modified by changes to lifestyle, nutrition and physical activity and all patients showed some genetic tendency to metabolise specific drugs more or less efficiently. In addition to a post-test appointment with a clinical geneticist or counsellor to explain their results, 8% of patients required referral to a secondary care specialist. The most common investigations requested included blood tests, liver ultrasound, breast ultrasound, MRI, tissue biopsy, cross sectional imaging, gastroscopy and colonoscopy. Most patients referred to secondary care required lifestyle advice and/or medication changes and in one patient radical prophylactic surgery was advised.

Conclusion

Robust clinical pathways based on good medical practice and available guidelines are key to ensure successful integration of WGS into a personalized preventative care model.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY: EXTENDING CARE REACH: INNOVATIONS IN HOME, HOSPITAL AND COMMUNITY

L-2042

Enhancing Clinical Care: A Simulation-Based Workshop on Continuous Renal Replacement Therapy for Advanced Nursing Practices in Critical Care.

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Introduction

Continuous Renal Replacement Therapy (CRRT) is a vital intervention for critically ill patients with acute kidney injury and severe fluid imbalances. Ensuring safe and effective CRRT management requires highly skilled critical care nurses proficient in its operation and troubleshooting. However, traditional instructive training often falls short in providing the practical expertise necessary for handling real-world clinical complexities. Simulation-based workshops offer an innovative educational approach that integrates theoretical instruction with hands-on learning, case-based discussions, and high-fidelity simulations to enhance nursing competencies. Strengthening CRRT training through simulation is crucial for improving clinical models of care, minimizing CRRT-related complications, and optimizing patient outcomes.

Aim/Objective(s)

This study evaluates the impact of a simulation-based CRRT workshop on improving nurses' proficiency, confidence, and decision-making skills in critical care settings. By equipping nurses with essential CRRT management skills, the program aims to enhance the quality and safety of care provided to patients undergoing CRRT, reduce complications, and optimize treatment outcomes. The workshop aligns with quality improvement initiatives focused on refining clinical care models for better patient management and overall healthcare efficiency.

Methods

A structured, simulation-based training program was developed and implemented at Aga Khan University for 22 critical care nurses. A pretest-posttest study design was used to measure knowledge acquisition and skill enhancement. The curriculum covered key topics, including renal anatomy and pathophysiology, CRRT treatment modalities, anticoagulation strategies, common troubleshooting techniques, machine operation, and kit installation. Interactive case study discussions and structured question and answer sessions facilitated active engagement and critical thinking. High-fidelity simulation exercises allowed participants to practice real-time CRRT management in a risk-free environment. To evaluate the effectiveness of the training, pre- and post-assessments measured improvements in theoretical knowledge, hands-on skills, and confidence levels.

Results

The workshop demonstrated a significant positive impact on participants' knowledge and competency levels. Pretest assessments showed a mean score of 9.59 (SD ± 2.40), reflecting initial knowledge gaps. Posttest results revealed a marked improvement, with an average score of 13.14 (SD ± 2.15), indicating a 37% increase in knowledge retention. Score distributions ranged from 5 to 15 in the pretest and from 9 to 15 in the posttest, highlighting substantial learning gains. Subjective feedback emphasized increased confidence in performing CRRT procedures, improved troubleshooting abilities, and better application of theoretical knowledge in clinical practice. The findings support the effectiveness of simulation-based education

in bridging knowledge gaps, enhancing clinical skills, and fostering a proactive approach to patient care.

Conclusion

Integrating simulation-based CRRT training into critical care nursing education enhances clinical models of care by strengthening nurses' competency in CRRT management, reducing procedural errors, and improving patient outcomes. The workshop's hands-on approach reinforces critical decision-making skills and ensures adherence to best practices in renal support therapy. Investing in continuous simulation-based training for nursing professionals is essential for advancing patient safety, optimizing healthcare resource utilization, and promoting excellence in critical care delivery. Expanding such educational initiatives across healthcare institutions can further elevate the standard of care, contribute to better patient recovery trajectories, and drive sustainable improvements in clinical practice.

Conflicts of interest related to this abstract: None

L-2043

EXPERIENCE OF IMPLEMENTATION AND ACCREDITATION OF CARF STANDARDS IN A REHABILITATION CLINIC IN ARGENTINA

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Introduction

Having the experience of being certified with ISO 9001 and 14001 Standards, in 2018 Alcla Clinic decided to start the path of implementing the CARF standard for rehabilitation programs, for which a team led by the Quality area was formed.

CARF is the Commission for the Accreditation of Rehabilitation Facilities, an international non-profit organization, founded in 1966, which has accredited more than 60,000 institutions worldwide. The evaluation process to achieve accreditation is carried out by peers, that is, by people specialized in the best practices in the field of rehabilitation. CARF's mission is to promote the quality, value, and optimal outcomes of services through a consultative accreditation process and continuous improvement. These focus on improving the lives of patients.

Aim/Objective(s)

The main objective is to show the implementation model, and the benefits of having a quality management system that affects the improvement of processes and allows the achievement of external recognition.

Methods

The implementation process was carried out through training activities, meetings with the different areas involved; drafting and updating of work protocols; proposals for objectives and planning for their achievement; data collection for the preparation of indicators, among others. The accreditation process begins with contact with the supplier; the development of the evaluation plan: contact persons; evaluation modality; dates, etc. In the case of Alcla, the evaluation was carried out virtually on September 2022. There were 2 surveyors: a leader who evaluated the strategic aspects of the organization, and a specific evaluator for the technical aspects of the Rehabilitation Program, which includes those patients who upon admission to

the clinic have been evaluated by the MFyR team and who meet the characteristics specified by the program to enter it: PATIENTS WITH POSSIBILITIES OF FUNCTIONAL RECOVERY.

Results

WHAT IS EVALUATED?

Section 1 of the CARF manual indicates the BASIS of the quality management system:

1. How the organization is formed
2. How your leaders are committed to quality patient care
3. What is the strategic plan to achieve the objectives
4. What resources are available?
5. How those resources are managed
6. How patient and family satisfaction is assessed and how those results become part of the clinic's improvement
7. How human capital is managed
8. How technology impacts the normal development of processes
9. What we do to prevent health care risks
10. How we take care of the facilities
11. What and how we measure the different processes in order to obtain metrics that allow us to know the performance of the organization, both at the operational level and in the care services.

Sections 2 and 3 of the CARF manual are purely assistance-related, in order to demonstrate that, the patients achieve discharge with the maximum possibilities for their initial pathology.

WHAT DO WE MEASURE?

Demonstrating the performance of the rehabilitation program implies constant measurement, both at the business and care levels. Efficiency, effectiveness, access, and patient safety and satisfaction are the pillar indicators.

Conclusion

During the evaluation, more than 20% of the staff were interviewed; more than 2500 standards were reviewed, which are those that make up the CARF manual; and at the end, a feedback is received from the evaluators, in which the strengths and findings or observations for improvement are notified. Alcla obtained the highest distinction which is the accreditation for 3 years. CARF accreditation adds value to the organizations that implement it:

- Ensure service excellence
- Generate competitive differentiation
- Guide risk management
- Allows access to funds/funding
- Improve business, for example the possibility of entering international patients
- Gives positive visibility
- Collaborate in peer-to-peer networking
- It promotes the development and measurement of results and their use for management.

For Clínica Alcla, CARF accreditation is more than compliance with requirements, it is the most harmonious way of working under good international organizational practices.

Conflicts of interest related to this abstract: NONE

L-2044

Fall prevention activities for elderly patients

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Introduction

Falls account for the highest proportion of unintentional injuries among the elderly, often leading to severe consequences due to factors such as polypharmacy, osteoporosis, and reduced mobility. These injuries can result in prolonged hospitalization,

increased healthcare costs, and a decline in overall quality of life. In 2023, the proportion of hospitalized patients aged 65 and older in the four internal medicine wards was 44.1%, exceeding the hospital-wide elderly hospitalization rate of 40%. That year, 104 falls were reported across these wards, with 15 cases resulting in injuries. Among them, 74 falls (70.1%) involved elderly patients, and 12 injury cases occurred in this group. Notably, elderly patients accounted for 80% of all fall-related injuries, highlighting the urgent need for targeted fall prevention strategies. Given the significant impact of falls on elderly patients, effective interventions are essential to enhance patient safety and reduce healthcare burdens.

Aim/Objective(s)

Our goals are

- To enhance staff awareness of fall risks in elderly patients.
- To develop and implement fall prevention activities tailored to the characteristics of elderly patients.
- To enhance patient safety by reducing the incidence of falls and fall-related injuries among elderly patients.

Methods

This study employed a quantitative descriptive design to analyze fall incidents among elderly inpatients. The participants included hospitalized patients aged 65 and older from four internal medicine wards, selected through purposive sampling based on hospital records from 2022 to 2023. Data were obtained from the hospital's Patient Safety Reporting System to assess the incidence and causes of falls. Additionally, a structured data extraction form was used to collect information on caregiver presence and role, hospital stay length, fall location, reason for movement, time of occurrence, and high-risk factors. For analysis, descriptive statistics (frequency and percentage) were applied to examine fall occurrence patterns, while comparative analysis was conducted to evaluate differences in fall awareness among staff, patients, and caregivers. This methodology provides a comprehensive understanding of fall risks in elderly patients and supports the development of targeted prevention strategies.

Results

This study examined the effectiveness of various interventions to prevent falls among elderly inpatients. To enhance staff awareness, an online training program and specialized sessions on "Geriatrics and Falls" were conducted by geriatric nursing specialists, leading to a 2.81% improvement in fall risk awareness. A structured fall prevention education protocol was developed, outlining instructional methods, content by timing, and strategies for non-adherent patients. A simulation-based training program using an elderly experience kit reinforced geriatric nursing competencies, with over 99% of participants expressing high satisfaction. A high-risk fall patient identification and intervention system was developed with attending physicians, incorporating prescriptive fall prevention measures. Consequently, patient and caregiver awareness and adherence to prevention strategies more than doubled. Additionally, environmental modifications, including enhancements to nurse call systems and bedside lighting indicators, were implemented alongside a tailored fall prevention training program and an environmental checklist. These measures resulted in a 58% reduction in fall incidence and a 60% decline in fall-related injuries. Findings from comparative analysis and descriptive statistics confirmed the efficacy of a multifaceted, evidence-based approach. This study emphasizes the importance of integrating staff training, environmental modifications, and structured patient education to enhance hospital-based fall prevention policies and clinical practice.

Conclusion

The tailored fall prevention education program and environmental improvement strategies developed in this study contribute to strengthening hospital patient safety protocols. By integrating simulation-based geriatric nursing training and a structured patient safety reporting system, staff competency and patient safety were enhanced. Additionally, this study facilitates the development of a practical, evidence-based training model applicable across diverse healthcare settings. A standardized fall prevention education protocol was established to ensure consistency in clinical practice, while an environmental risk assessment checklist was implemented to proactively mitigate fall-related hazards. The high-risk fall patient intervention system was designed to promote collaborative decision-making and interdisciplinary interventions, enabling timely responses to at-risk patients, improving clinical outcomes, and reducing the burden on healthcare systems. This system can serve as a model for future hospital policies. Furthermore, patient-centered education empowered elderly patients and caregivers to actively engage in fall prevention, fostering a safer hospital environment. As aging populations continue to rise, these findings provide critical insights into the advancement of geriatric healthcare services. By offering empirical evidence supporting the effectiveness of a comprehensive fall prevention strategy, this study serves as a foundation for future research aimed at optimizing patient safety interventions for elderly inpatients.

Conflicts of interest related to this abstract: None

L-2045

Home-based management of non-life-threatening emergencies: Experience of a Mobile Emergency Unit (EMU)

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Introduction

Healthcare systems worldwide are facing numerous challenges, such as aging population, reduced availability of hospital beds, and staff reductions in emergency departments (Falchenberg et al, 2024). Hospital emergency departments face crowding and boarding problems, that impact negatively on patients' safety and professionals' work environment, partly due to patients requiring rapid assessment without needing immediate hospitalization. Several intervention models have demonstrated their ability to reduce the number of emergency visits while maintaining a comparable quality of care, by offering home-based prehospital targeted situation management (Falchenberg, 2024; Steinman et al. 2023). Evidence shows that cooperation is of utmost importance to achieve functioning mobile care (Teske et al., 2023).

Aim/Objective(s)

In Geneva, the IMAD designed a home-based collaborative care model, the Mobile Emergency Unit (EMU), funded by the Cantonal Health Office, in collaboration with the Geneva University Hospitals (HUG@home), the emergency health call center (CASU-144), and a private medical emergency unit (GEMED). The EMU is intended for semi-urgent and non-urgent situations such as abdominal pains or superficial wounds, that require mandatory assessment and treatment within 120 minutes (lev-

els 3 and 4 of the Swiss Emergency Triage Scale). At the request of the CASU-144, the EMU provides immediate nursing assessment and intervention directly at patients' home, in coordination with the patient's primary care network and the general practitioner. First, patients who do not require hospitalization, will benefit from appropriate care while remaining at home. Second, the nurses' role in prehospital emergency management will be strengthened, and third, the coordination between emergency services and community-based healthcare providers will be improved.

Methods

The pilot project began on December 5th, 2024. The EMU consists of a nurse duo send to patients' homes following emergency triage by the CASU-144. The unit operates daily from 12 AM to 11 PM. EMU nurses received specialized training in home-based assessment of non-life-threatening emergencies and crisis management. They can call on a project-affiliated physician at any time for care plan validation, prescription issuance, or medical advice. Key performance indicators are systematically recorded, including number of interventions, number of required nurses, chief complaints, post-intervention orientation, intervention duration, and response time. Data on socio-demographic characteristics are collected, including age, gender, primary care physician and home care network details. At D+2, a coordinating nurse conducts a follow-up call and administers a patient satisfaction survey. Every week, a quality monitoring and coordination meeting gathers all the project partners to continuously define the EMU's scope of action and adjust the CASU-144 triage.

Results

By February 25th, 2025, 90 patients have been treated by the EMU, which arrived 30 minutes after the CASU-144 triage. Total project staff includes 6.4 nurses. The six most common reasons for intervention (fall assessments, psychiatric issues, malaise, limb trauma, urogenital conditions, and vertigo) account for over half of all cases. Patients are 55% men with a mean age of 77 years (range 37–95 years, median 82 years). Patients' primary care network includes 34% home care services and 87% primary care physician. The EMU unit called the project physician in 45 % of the situations. Hospitalizations primarily occurred due to general condition deterioration or respiratory distress. The average intervention duration was approximately 60 minutes, with 30 minutes additional travel time. 88% of the 90 patients remained at home after the EMU intervention including patients, including those assessed by the project physician. 96% of patients were satisfied or very satisfied with the EMU intervention.

Conclusion

The growing pressure on emergency departments necessitates innovative solutions for managing non-life-threatening emergencies, particularly among vulnerable populations. Preliminary data suggest that the EMU prevents hospital transfer in most patients initially referred by CASU-144, thereby alleviating emergency department congestion. The EMU model demonstrated its value as an urgent home-based nursing intervention in reducing emergency department visits. The prevalence of falls and psychiatric crises highlights the specific needs of an aging and vulnerable population. High patient satisfaction rates and efficient intervention times demonstrate the model's effectiveness. Further research is needed to validate these promising results through detailed analysis of the clinical population and cost-effectiveness. Refinement of intervention criteria may optimize resource allocation and enhance patient-centered care delivery.

Conflicts of interest related to this abstract: None

L-2046**Implementation of a Tobacco Cessation Program in an Outpatient Primary Care Center in Bogotá, Colombia: Insights from Experience.**

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Introduction

Smoking remains a global public health issue, causing 8.2 million deaths annually. In Colombia, the lifetime prevalence of tobacco use is 33.3%, with approximately 34,800 tobacco-related deaths each year and costs amounting to 1.8% of the GDP (Gross Domestic Product). To address this issue, the WHO Framework Convention on Tobacco Control has established a global action plan (the MPOWER strategy). One of its measures is to "Offer help to quit tobacco use"; however, only 26 countries provide these services. Colombia has made progress in implementing these measures, highlighting the need to strengthen tobacco cessation approaches and services. This document presents the experience of implementing an outpatient smoking cessation program (Annex 1).

Aim/Objective(s)

Develop and implement a comprehensive care program to promote the reduction and cessation of tobacco and related product use in an outpatient primary care center in Bogotá, Colombia

Methods

The smoking cessation program was implemented in several phases:

Phase I: The program was designed using a logical framework to define causes, effects, objectives, and indicators.

Phase II: This phase involved raising awareness and training healthcare personnel through a virtual platform, forming teams to address different levels of intervention, and establishing a tiered care model based on inclusion and exclusion criteria for users (Annexes 2, 3, and 4).

Phase III: The target population was characterized, identifying 355 tobacco users between 2019 and 2020, with 34% being women and 66% men, ranging in age from 10 to 99 years.

Phase IV: Program implementation began in June 2023 in an outpatient primary care center, integrating healthcare providers and insurers.

Results

During the implementation of the smoking cessation program in an outpatient medical center between June 2023 and December 2024, a total of 172 assessments were conducted, resulting in 142 patients being enrolled in the program. Of these, 88% entered the intermediate component and 12% the advanced component. Demographic analysis showed that 59% of participants were men and 41% were women, with 28% aged between 61 and 70 years. According to the Fagerstrom test, 61% had low nicotine dependence. Regarding the stages of change (Prochaska), 38% were in the pre-contemplation stage, while 41% were in the contemplation stage. Risk conditions were assessed, revealing that 74% had no risk factors, while others presented cardiovascular risk (14%) and COPD (6%). Progress in the process showed that 96% of patients modified their stage of change, and 48% reduced their cigarette consumption by 50%. Only 4% received pharmacological treatment, with most

preferring counseling as their primary intervention. However, difficulties in the availability of medications for treatment were reported

Conclusion

This report details the implementation of a comprehensive smoking cessation program in a primary care center in Bogotá, Colombia. The program has been designed to align with the Ministry of Health's guidelines to promote smoking cessation in outpatient settings. Significant progress has been made in training healthcare personnel and integrating smoking prevention and treatment into routine care, given the limited number of established programs in outpatient settings. To date, 96% of participants have improved their smoking-related behaviors, with 48% achieving a significant reduction in their initial tobacco consumption. This reduction represents a step toward complete cessation, with the program aiming to reach a 30% cessation rate. Since smoking is a chronic disease with high relapse and dependence rates, measuring success goes beyond abstinence, also considering behavioral changes in smokers

Conflicts of interest related to this abstract: None

L-2037**Leading innovation in HIV Prevention and Care: The experience of ASST Fatebenefratelli Sacco, Milan**

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ASST Fatebenefratelli Sacco, Italy

Introduction

ASST Fatebenefratelli Sacco is part of the Lombardy Healthcare System and manages the largest cohort of HIV patients in the region, with approximately 5,450 individuals under care. Despite considerable advancements, HIV remains a significant public health challenge, with 2,349 new diagnoses reported in Italy in 2023, of which 377 (16%) occurred in Lombardy. Recognized nationally for its expertise in infectious diseases, ASST Fatebenefratelli Sacco has implemented pioneering strategies to reduce new HIV infections and enhance patient care.

Aim/Objective(s)

The aim of this analysis is to evaluate the impact of innovative HIV prevention and patient care strategies developed by ASST Fatebenefratelli Sacco. Specifically, it examines their effectiveness in reducing new infections, improving disease management and enhancing overall patient well-being.

Methods

ASST Fatebenefratelli Sacco has launched several strategic initiatives to innovate HIV prevention and care. These include a strategic pilot project offering injectable long-acting Pre-Exposure Prophylaxis (PrEP), an outpatient service dedicated to managing metabolic disorders among HIV-positive individuals, and specialized clinics for handling complex therapeutic interactions. The hospital has also activated dedicated outpatient clinics addressing oncological comorbidities and has established a specialized vaccination protocol. Moreover, the organization collaborates with third-sector associations, providing rapid diagnostic tests, and has initiated a project with rapid diagnostic testing services aimed at early HIV detection.

Results

Early results indicate high patient adherence and positive satisfaction rates among the 170 patients enrolled so far in the injectable PrEP initiative. Clinics dedicated to metabolic and oncological management reported improved patient outcomes

through early detection and tailored interventions. Collaborative rapid-testing initiatives with third-sector organizations have increased early diagnosis and linkage to care, enhancing patient outcomes.

Conclusion

The innovative HIV prevention and patient-management strategies adopted by ASST Fatebenefratelli Sacco are showing

promising preliminary results, underscoring their potential to significantly reduce new HIV infections and enhance patient care quality. These initiatives highlight the importance of integrated care pathways, patient-centered approaches, and multidisciplinary interventions in achieving optimal clinical and quality-of-life outcomes for patients living with HIV.

Conflicts of interest related to this abstract: None

TRACK 3: ENVIRONMENTALLY SUSTAINABLE, RESILIENT, AND LOW-CARBON HEALTHCARE: DECARBONIZING HEALTHCARE PRACTICES: INITIATIVES WITH IMPACT

L-3001

Ecoprescription rules can cut 30% of CO2 emissions from medical prescriptions with same quality of care for patient

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Introduction

The health system is a major contributor to greenhouse gas emissions. In France, this activity accounts for 8% of emissions corresponding to 49 Mt of CO₂eq per year. The first emission item is made up of purchases of medicines representing 29% of emissions with 14.5 Mt of CO₂eq per year. In the world, greenhouse gas emissions of health systems account for 4,6% to 8% of global emissions. The active pharmaceutical ingredient represents a significant share of the drug carbon footprint, which is explained by its life cycle that requires many resources for its development, manufacture, distribution and end-of-life. France has recently adopted an environmental roadmap for its health system. The objective is to reduce CO₂ emissions by 5% per year until 2050. While existing decarbonization efforts focus on hospital infrastructure and energy efficiency, the carbon footprint of pharmaceuticals remains a largely overlooked yet highly impactful area for intervention.

Aim/Objective(s)

Health professionals have an important role in this decarbonization goal. In order to achieve a downward trajectory of emissions, doctors must direct their choices of treatment towards less impactful therapies. This can be achieved through ecoprescription, defined as the less environmentally damaging therapy with an equal quality of care. It takes into account both CO₂eq emissions and environmental contamination. The aim of this study is to define simple rules for prescribers to favor more environmentally virtuous therapeutic strategies with equal quality of care.

Methods

Ecovamed® developed the first database on the carbon footprint of oral drugs, with 12,316 drugs from the French pharmacopoeia. It has been developed with an hybrid Life Cycle Assessment (LCA) and Environmentally Extended Input-Output (EEIO) methodology, taking into account the life cycle of medicines from cradle to gate of the pharmacy. It allows to obtain the carbon footprint of the drug, and provides much more accurate carbon footprint data than a monetary emission factor approach. A drug carbon footprint analysis was conducted on

8 classes of common prescription drugs. These drugs represent 15% of drug sales in France. Comparisons between active ingredients were normalized in terms of packaging and using the daily defined dose (DDD). The eco-prescription rules identified were validated by an expert group of OMEDIT Normandy. It was supplemented by a literature review to identify the other levers of decarbonization.

Results

The work helped to define the 5 principles of eco-prescription ["Ecoprescription" leaflet of the OMEDIT Normandy]:

- Give preference to dry oral forms: Applying this principle reduces the carbon footprint by a factor of 4 to 12 and is also associated with economic gains.
- Avoid the prescription of pressurized inhalers: This principle would result in a 10 to 20-fold reduction in greenhouse gas emissions.
- Within the same therapeutic class, give preference to molecules with the lowest daily doses of active ingredient: The average reduction observed in the 8 classes was 30%. This result is explained by the preponderance of the active ingredient in the carbon footprint of medicines (28.5%).
- Focus on combined specialties combining several active substances: It has also been shown that the use of specialties combining several active ingredients would reduce CO₂ emissions by 29% compared to the use of individual active ingredients.
- Prefer a dosage regimen with a minimum of doses to be administered: The prescription of regimens limiting the number of tablets or capsules administered is also favorable (-37%) at an equal amount of active ingredient.

Conclusion

Ecoprescription represents one of the few 'low hanging fruits' in healthcare decarbonization, as it requires no additional cost and only minor adaptations to existing prescribing practices. The impact on the pharmaceutical sector is multiple and major:

(i) Research & Development: it would become crucial to focus more effective research taking into account decarbonization parameters and in particular with the development of most potent drugs. Indeed, these active ingredients would have a competitive advantage for pharmaceutical industries especially for the « me-too » drugs.

(ii) Production: The consideration of ecoprescription by prescribers would result in a redistribution of production volumes of less potent drugs to most potent ones. If this consideration is not anticipated by industrials, there is a risk of drug shortage.

(iii) Prescription: Ecoprescription would induce a major modification of all therapeutic guidelines.

(iv) Drug delivery: These rules of ecoprescription could also be used by the pharmacist, especially for the ecosubstitution of drugs.

Conflicts of interest related to this abstract: None

L-3002**Guide to hospital decarbonisation: good national and international practice**

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Introduction

Climate change affects public health, generating heat waves, new diseases, and respiratory and cardiovascular problems due to pollution. The healthcare sector, responsible for 4.5% of global greenhouse gas (GHG) emissions, must act to mitigate its effects. Decarbonization strategies, recognizing the interdependence of human, animal, and environmental health "One-Health" are essential to reducing environmental impact and protecting people from the negative impacts of climate change and emerging diseases. Measuring and managing their carbon footprint helps identify areas for improvement in energy and resource use, promoting sustainability. The decarbonization of the healthcare sector is aligned with the Sustainable Development Goals (SDGs) and the Paris Agreement, which promote the reduction of GHG emissions to achieve climate neutrality by 2050, fostering resilient and sustainable health systems. Spain's Climate Change Law promotes carbon footprint measurement in the healthcare sector, the implementation of renewable energy, and improved energy efficiency in healthcare facilities to reduce GHG emissions.

Aim/Objective(s)

Our objective is to develop a guide that provides a clear and practical framework for reducing the environmental impact of healthcare facilities and their GHG emissions, measured as a carbon footprint. The guide, developed based on knowledge and experience in healthcare facilities, aims to facilitate this process by providing practical and viable initiatives and strategies for daily operations that can be implemented at the individual and organizational levels to contribute to the decarbonization of the healthcare sector and integrate it into global emissions reduction processes. This decarbonization guide aims to be a tool to help healthcare facilities move toward a NETtoZERO low-emission model, facilitating decarbonization in the healthcare sector in order to contribute to climate change mitigation and advance toward a committed healthcare system. With this vision, ONEHEALTH healthcare facilities can become true benchmarks for health and sustainability, protecting both present and future generations.

Methods

To achieve this objective:

- An interdisciplinary working group was created, including professionals from the network's member hospitals specializing in environmental sustainability, and external collaborators from other disciplines: communication, etc.
- A systematic bibliographic search was conducted to identify international best practices in healthcare centers that reduce their carbon footprint and contribute to the decarbonization of the sector belonging to the C2DS in Spain, France, and the United Kingdom.

- A descriptive methodology was applied, compiling more than 52 best practices against climate change in response to the commitment established at COP26, some of which received national and international awards.
- The most relevant practices were selected due to their ease of replication and impact, proposing objective reduction monitoring indicators.
- The carbon footprint declaration is proposed as a measurement and monitoring tool, providing tools for its understanding.

Results

A guide has been developed with the following structure:

- Introduction: Importance and benefits of decarbonization in the healthcare sector. The role of healthcare professionals in decarbonizing the healthcare system. Objective of the Guide
- Understanding the scope of carbon footprinting as a decarbonization tool.
- Definitions. Specific examples in the hospital setting.
- Strategies for emission reduction: Scopes 1, 2, and 3.
- Implementing decarbonization in the hospital.
- Initial planning and evaluation. Establishing objectives and goals. Staff training and awareness. Monitoring and reporting progress.
- Case studies and best practices.
- Successful experiences in hospitals. Lessons learned and recommendations.
- Tools and resources.
- Emissions monitoring tools. Surveys. International guidelines and regulations. Creating a community to share experiences: Contacts and support networks.
- Conclusions
- Summary of Key Points
- Appendices
- Glossary of Terms. Sources and References.

Conclusion

The decarbonization of the healthcare sector is an urgent need and an opportunity to improve the sustainability of the health system. The guide developed by the RNRSS provides a practical framework for measuring the carbon footprint, setting reduction targets, and adopting strategies aligned with the SDGs and the Paris Agreement. Collaborative work among sector professionals, the sharing of best practices and the implementation of monitoring indicators will enable progress toward a more sustainable healthcare system. Staff participation is key, as their knowledge, helps identify inefficiencies and drive change.

Sustainability training is essential for integrating environmental criteria into healthcare management and care. Furthermore, monitoring and measuring the carbon footprint ensures the effectiveness of the strategies implemented. The RNRSS reaffirms its commitment to social responsibility and sustainability, promoting a transformation in the healthcare sector to make it sustainable and environmentally friendly.

Conflicts of interest related to this abstract: None

L-3003**Reducing Scope 3: Striving for System Change in the Healthcare Ecosystem to Achieve Net Zero**

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Introduction

The healthcare sector accounts for 4.4% of global CO₂ emissions in Europe, with hospitals contributing significantly

through energy use, procurement, pharmaceuticals, and patient mobility. While FSM has already achieved Net Zero for Scope 1 and 2, Scope 3 emissions remain our biggest challenge, representing the majority of our carbon footprint.

To address this, FSM follows a three-pathway strategy:

- Decarbonizing healthcare operations, optimizing hospital efficiency and energy use.
- Decarbonizing the supply chain, prioritizing local, sustainable procurement (66% of suppliers from Catalonia).
- Accelerating decarbonization in society, promoting sustainable food, low-carbon pharmaceuticals, and circular healthcare.

Key initiatives include 100% renewable electricity, reducing hospital stays, phasing out high-emission inhalers, reducing chemicals, promoting sustainable mobility, and increasing local, organic food procurement. FSM is committed to achieving total Net Zero by 2040, proving that sustainable healthcare is both feasible and impactful.

Aim/Objective(s)

FSM is committed to achieving total Net Zero through:

1. Powering with 100% clean, renewable electricity (without natural gas).
2. Investing in zero-emissions buildings and infrastructure, optimizing hospital energy efficiency with geothermal heating, solar panels, and rainwater collection systems.
3. Transitioning to zero-emissions, sustainable travel, reducing unnecessary patient travel, implementing telehealth, e-consultations, and electric vehicle fleets for home care.
4. Planning a healthy, sustainably grown food by ensuring in 2030: 30% of hospital food organic and 40% locally sourced. Reduction of animal protein, prioritizing nutritionally balanced plant-based alternatives. Partnerships with local farmers.
5. Incentivizing and producing low-carbon pharmaceuticals, reducing the use of pressurized inhalers and implementing inhaler recycling programs.
6. Implementing circular healthcare and sustainable waste management, including reusable medical supplies, waste segregation into 29 categories, and returnable medical packaging.
7. Establishing greater health system effectiveness, improving patient pathways to reduce hospital stays, avoid redundant diagnostics, and optimize resource use.

Methods

FSM employs a continuous improvement approach, integrating:

- Process-by-process analysis to identify and reduce emissions from key activities.
- Sustainable procurement policies prioritizing suppliers with low-carbon products and responsible supply chain practices.
- Environmental training for healthcare professionals, ensuring sustainability is embedded in clinical decision-making.
- Digital health solutions, such as teleconsultations and online rehabilitation programs, to reduce patient travel.
- Green mobility initiatives, including bicycle parking, electric charging stations, and car-sharing for staff.
- Waste reduction strategies, replacing single-use plastics with reusable alternatives and optimizing medical waste management.

Results

FSM has successfully reduced Scope 3 emissions through process optimization, sustainable procurement, and waste reduction. Key achievements include:

- Hospital stays reduction, optimizing patient care pathways, expanding home hospitalization, and implementing fast-track surgical programs, lowering resource consumption.

- Sustainable pharmaceuticals, prioritizing dry-powder inhalers, reducing anesthetic gas emissions by 90%, and cutting pharmaceutical waste by 40% through an automated dispensing system.
- Circular healthcare initiatives, replacing single-use plastics with reusable materials, expanding waste segregation to 29 categories, and implementing returnable containers in medical and cafeteria operations.
- Sustainable food strategy, ensuring 30% of ingredients are organic and 40% are locally sourced, reducing animal protein consumption, and promoting climate-resilient agriculture.
- Mobility and digitalization, reducing patient travel by 24% through telemedicine, e-consultations, and YouTube rehabilitation programs, while expanding electric vehicle fleets.

These initiatives have led to significant CO₂ reductions, reinforcing FSM's role as a benchmark in sustainable healthcare. FSM has proven that reducing Scope 3 emissions is achievable through strategic governance, stakeholder engagement, and continuous improvement, laying the foundation for total Net Zero by 2040.

Conclusion

FSM's Net Zero strategy demonstrates that healthcare can decarbonize without compromising patient care. By integrating sustainable procurement, circular economy principles, and low-emission healthcare delivery, FSM has successfully reduced Scope 3 emissions, reinforcing its leadership in climate-smart healthcare.

A key success factor is the three-pathway approach:

1. Decarbonizing healthcare operations through energy-efficient facilities, optimized hospital stays, and low-emission pharmaceuticals.
2. Transforming the supply chain, prioritizing local, sustainable suppliers and implementing environmental criteria in procurement policies.
3. Engaging society, fostering sustainable mobility, healthy food systems, and stakeholder education to amplify climate action.

FSM's data-driven methodology ensures measurable impact, demonstrating that sustainability aligns with cost efficiency and healthcare quality. By reducing waste, emissions, and resource consumption, FSM improves both environmental and economic performance, proving that green healthcare is not only necessary but also financially viable.

Looking forward, FSM is committed to eliminating Scope 3 emissions by 2040, expanding sustainable prescribing, enhancing circular economy initiatives, and continuing to pioneer low-carbon healthcare innovations, shaping a resilient, Net Zero healthcare model for the future.

Conflicts of interest related to this abstract: None

L-3004

Reprocessing of single-use medical devices and implants: a new approach of sustainability

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Introduction

Since the COVID crisis, hyper-specialized medical devices, particularly in neurosurgery, have experienced numerous situations of shortages and supply tensions. These supply tensions were mainly due to supply defects in raw materials which could have been decreased by the reprocessing of some Single Use Medical Devices (SUMD). Medical device reprocessing has significant environmental benefits but currently in France, it is only allowed for Reusable Medical Devices. The reprocessing of SUMD is allowed in very few countries. To be extended, it must be evaluated in order to change the regulations. This assessment must be done based on the type of medical devices and patient safety issues. Implementing strict quality control protocols is essential to ensure the effectiveness and safety of remanufactured medical devices.

Aim/Objective(s)

The aim of our study is to evaluate ex vivo the reprocessing of SUMD used in the operating room (surgical instruments and implant). The evaluation is based on their resistance, their safety, their functionality, while analyzing the economic and environmental benefits. The objectives are also the comparison of the costs for healthcare establishments and the evaluation of the environmental footprint of medical waste.

Methods

Washer-Disinfectors and Steam Sterilizers (Getinge), V-PRO™ maX Low Temperature Sterilization (Steris). Ten types of SUMD (n = 66): 33 sterilized with steam including 3 surgical burrs without prior washing and 33 with hydrogen peroxide including 6 surgical burrs without prior washing. SUMD: occipital screws (titanium), rods (titanium), surgical burrs (stainless steel), cranial perforators (stainless steel), Magill forceps (stainless steel), capsulorhexis forceps (stainless steel), Kocher forceps (stainless steel), transnasal burrs (stainless steel and plastic), cervical cages (PolyEther-Ether-Ketone (PEEK)) and bipolar forceps (aluminum and silver). Macroscopic and microscopic observation were realized on each instrument (TO and after each washing and sterilization cycle). The surgical burrs underwent evaluation at each stage of the process, including washing alone (n = 3), washing followed by steam sterilization (n = 3), steam sterilization alone (n = 3) and vaporized hydrogen peroxide gas plasma (VHPGP) alone (n = 6). Statistical test: Chi-square. Economic: purchase cost compared with our cost of reprocessing (4 euros per SUMD).

Results

The washing cycle (with thermal disinfection at 95°C for 3 minutes) had no impact in 67% of cases (n = 42). After washing and steam sterilization (n = 30), 20% of the SUMD (n = 6) were not altered. The materials showing no alteration after microscopic examination were titanium (33.3%, n = 3) and PEEK (100%, n = 3). After washing and VHPGP sterilization, 66.7% of the SUMD (n = 18) did not present any abnormality. The materials showing no alteration after microscopic examination are titanium (75%, n = 9), stainless steel (80%, n = 12) and PEEK

(100%, n = 3). The results show that VHPGP sterilization is significantly less aggressive compared to steam sterilization (p < 0.05). The results also show that the most resistant SUMD are the occipital screws and the cervical cages. Indeed, they are not affected by any kind of treatment. The SUMD which are not altered by a washer-disinfector cycle and VHPGP sterilization are Magill forceps, capsulorhexis forceps and Kocher forceps and trans-nasal burrs. The economic analysis shows that reprocessing cost is lower (p < 0.05) than the renewal of SUMD (120 vs 4550 euros). Concerning the environmental benefit, a recent study published by McCance and coll (Eye, February 2025) demonstrate that reusable instruments had a 27 times lower carbon footprint than single-use instruments.

Conclusion

Our study shows the positive impact of reprocessing on SUMD after sterilization with steam water or hydrogen peroxide. The results reveal a significant lower alteration (p < 0.05) of devices treated with hydrogen peroxide. These observations suggest that this method could be the reference to optimize the reuse of SUMD in hospitals. Resistance also takes into account the materials used with a superiority of stainless steel, titanium and PEEK. The objective of SUMD reprocessing is to reduce supply disruptions and the environmental footprint. As we are convinced of the utility of the reprocessing of SUMD, the next step will be to evaluate their functionality and to define the responsibility of all stakeholders.

Conflicts of interest related to this abstract: None

L-3005

Sustainability in Focus: Insights from the University Hospital Basel's Action Weeks

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Introduction

Sustainability is a critical issue in modern healthcare, as hospitals and healthcare systems strive to reduce their environmental impact while maintaining high standards of patient care. Recognizing this, the board of directors at the University Hospital Basel has prioritized sustainability a strategic goal. Consequently, USB acknowledges its responsibility and has taken significant steps to engage and enable its employees, notably through its "Aktionswochen Nachhaltigkeit" (Sustainability Action Weeks). The Sustainability Action Weeks are an annual initiative at USB aimed at raising awareness and promoting sustainable practices among USB employees. Conducted for the fourth time in 2024, this event featured a variety of activities designed to engage and educate participants on social and ecological sustainability topics. The initiative emphasizes the importance of environmental stewardship and corporate responsibility in fostering a sustainable future.

Aim/Objective(s)

The primary objective of the Action Weeks is to sensitize USB employees to the significance of sustainability through engagement as well as educational exhibits and activities. Specific aims include increasing awareness of environmental issues, minimizing waste and encourage recycling, promoting sustainable consumption and mobility and encouraging employees to adopt sustainable (and healthy) habits within the workplace. Additionally, the initiative aims to foster a culture of sustainability within the organization and strengthens collaboration between different departments in this field. Through joint projects and the exchange of best practices, synergies can be utilized, and innovative solutions can be developed.

Methods

The interactive and interdisciplinary program of the two sustainability action weeks provided numerous exciting impulses to promote socially and ecologically sustainable practices at USB. An exhibit with eight booths highlighted sustainability and its implementation across various hospital departments and domains. Different Stakeholders, including the USB Green Team, occupational health management, the infectiology team, and NGO SapCycle, raised awareness and provided hands-on knowledge about their initiatives, resulting in inspiring conversations and valuable insights. Small incentives, such as raffles and an online quiz with a chance to win a restaurant voucher, motivated employees to engage with the topic at a low-threshold level. This year's program was enhanced with short meditation classes, a cinema night, guided tours of the kitchen, waste disposal center, and hospital garden, as well as bike checks open to all employees. Due to limited spots, advance registration via Microsoft Forms was required for the tours and bike check.

Results

Even before the two Sustainability Action Weeks began, almost all guided tours were fully booked, highlighting the high interest in learning more about sustainability at USB. In total, around 120 employees gained fascinating insights behind the scenes of USB through tours of the kitchen, the disposal center, and the hospital garden. The bike check slots were also fully booked within a few days, prompting the addition of a second afternoon with double the number of slots. Over 70 bicycles were made fit for winter during the two days of the bike check. The pre-registration process enabled to contact all participants to gather feedback about the bike check. A short survey on Microsoft Forms was completed by 44 participants, with 93% indicating they were very satisfied (73%) or satisfied (20%) with the bike check. The likelihood of signing up for a future bike check, rated on a scale from 1 to 10, averaged 9.23, with nearly 80% of respondents giving a rating of 10. Nearly 100 participants tested their knowledge on sustainability topics and the content of the exhibit through a short online quiz. One winner received a voucher for a vegetarian restaurant in Basel.

Conclusion

By engaging employees through interactive and educational activities, USB has successfully raised awareness about environmental issues and encouraged the adoption of sustainable habits. The collaboration between different departments and external partners further strengthens the hospital's capacity to implement sustainable practices. This initiative not only contributes to reducing the hospital's environmental footprint but also fosters a culture of sustainability among staff, which can lead to long-term improvements in health service delivery. The positive feedback and high participation rates indicate a strong interest and commitment from employees, suggesting that such initiatives can be instrumental in driving behavioral change. The innovative approach of integrating sustainability into daily operations and offering practical solutions, such as bike checks and guided tours, highlights USB's dedication to environmental stewardship.

Conflicts of interest related to this abstract: None

L-3006

The Environmental Impact of Improved Surgical Outcomes: A Comparative Analysis of Robotic, Laparoscopic, and Open Surgery

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Introduction

Hospitals are major contributors to carbon emissions and medical waste, with major surgical procedures accounting for a substantial portion of the environmental footprint due to intensive resource utilization for patient care and disposable supplies. Robotic-assisted surgery (RAS) has demonstrated clinical benefits, including reduced length of stay, readmission rates, and blood transfusions. The environmental impact through these improved patient outcomes is not very well known. RAS has been widely adopted in urology-based procedures for more than two decades. Given broad adoption, this study evaluates potential environmental benefits of RAS compared to laparoscopic and open surgery for prostatectomy and partial nephrectomy by integrating patient outcomes with published healthcare sustainability metrics. Our study goal is to develop a novel approach to quantifying perioperative environmental impact for healthcare systems and their policy makers on how RAS may improve patient outcomes and support healthcare sustainability efforts.

Study Objectives

1. Compare RAS outcomes at HMH with recently published data benchmarks from the COMPARE Study (vs. Lap and open surgery) on partial nephrectomy and prostatectomy cancer surgeries, evaluating perioperative outcomes: length of hospital stay (LOS), 30-day readmission and blood transfusion rates.
2. Quantify the environmental impact of improved perioperative outcomes by estimating carbon avoidance and medical waste reduction.

Methods

We analyzed aggregated de-identified patient outcomes from HMH's electronic medical records (EMR) database for all RAS prostatectomy and partial nephrectomy cancer procedures in 2022. Outcomes including the mean LOS, 30-day readmission and blood transfusion rates were compared with recently published benchmarks from the COMPARE Study (laparoscopic and open surgery). Environmental impact was estimated using published metrics: 45 kg CO₂ per inpatient day, 6.5 kg CO₂ per blood transfusion, and 5.5 kg of medical waste per inpatient day. A recent study estimates surgical readmission requires 2 additional inpatient days which was applied across all surgical modalities (i.e., an extra 90 kg CO₂ and 11 kg of medical waste). These metrics apply solely to the perioperative phase and exclude intraoperative waste and full lifecycle assessments of surgical equipment.

Results

RAS for partial nephrectomy resulted in 62–71% shorter length of stay (LOS), 82–86% lower 30-day readmission rates, and 84–89% fewer blood transfusions compared to laparoscopic and open surgeries. In prostatectomy, RAS reduced LOS by 53–56%, readmission rates by 41–52%, and blood transfusions by 95–98%. Using published environmental conversion metrics, each RAS case resulted in an estimated avoidance of 100–194 kg CO₂ and 12–24 kg of medical waste based on length of stay,

readmissions, and blood transfusion reductions at HMH. Applying these per procedure estimates to HMH's 708 RAS procedures in 2022, the estimated CO₂ avoided is 70–102 metric tons (equivalent to driving from Geneva to Rome 573 times one way) and reducing medical waste disposal of 8–13 metric tons (estimated disposal cost avoidance of up to \$30,680 USD or CHF 27,608).

Conclusion

This study demonstrates RAS for partial nephrectomy and prostatectomy not only improves patient outcomes, but also offers potential environmental benefits. By quantifying the sustainability of RAS through the integration of clinical and environmental data, we highlight the potential for carbon avoidance and reducing medical waste. For hospitals and health systems seeking to minimize their environmental footprint while maintaining

high quality patient care, these findings emphasize the importance of incorporating patient outcomes when evaluating sustainability within surgical care. Our study does have limitations, based on the retrospective review of the data which does not account for intraoperative waste or full lifecycle assessments of surgical equipment. Future research should expand on this work through multicenter analyses, lifecycle assessments, and inclusion of intraoperative emissions data to provide a more comprehensive understanding of surgical modality environmental impacts. By measuring both patient outcomes and sustainability metrics, healthcare systems and hospitals can evaluate surgical modalities impacts on outcomes and the environment.

Conflicts of interest related to this abstract: On the Scientific Advisory Board for Intuitive (Sunnyvale, CA, USA). Don Hoeler is an employee of Intuitive Surgical (Sunnyvale, CA, USA).

TRACK 3: ENVIRONMENTALLY SUSTAINABLE, RESILIENT, AND LOW-CARBON HEALTHCARE: POWERING LOW-CARBON HOSPITALS: ENERGY, STRATEGY, AND RESILIENCE

L-3007

Building Resilient and Low-Carbon Healthcare: Sustainable Strategies for Resource-Limited Hospitals using the 6Rs

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Introduction

Healthcare facilities worldwide contribute significantly to carbon emissions, waste generation, and energy consumption, making sustainability an urgent priority. However, hospitals in resource-limited settings face unique challenges, such as funding constraints, outdated infrastructure, and lack of specialized sustainability expertise. M P Shah Hospital recognized the need for resilient, cost-effective, and low-carbon solutions to balance financial sustainability with environmental responsibility. Through innovative energy efficiency measures, water conservation strategies, and waste reduction programs, the hospital has demonstrated how private healthcare institutions can implement impactful sustainability initiatives without large

capital investments. This study explores these strategies and their replicability across similar healthcare settings.

The Specific Objectives

1. Identify the areas to be evaluated in each of the 6Rs
2. Determine interventions in each of the 6Rs.
3. Monitor results of the interventions in the 6Rs

Methods

- Participants: Senior leadership team
- Sampling: A purposive sample of 12 members of the Green 365 committee,
- Longitudinal study: 2022–2024.
- Data Collection: Secondary data – management accounts of utility expense, energy audit report. Monthly focus group discussion with Green 365 committee. Quarterly report of Code white incidences. Annual culture of safety survey
- Tools Employed: Interviews; surveys; observation; thematic analysis for qualitative insights from staff and leadership.
- Data Analysis: Descriptive analytics using tables and graphs. Theoretical memoing of the focus group discussions to derive the insights and design improvement methodology.

Results

6Rs of Sustainability	Focus area	Initiative	Results
Reduce	Utilities Methane	Energy audit Meatless Monday	88% implementation of energy audit recommendations Solar lighting, LED lighting, switch off stickers, Manage idling time on screens 9906 meatless Monday meals served
Reuse	Paper	Monitor waste	18% reduction in paper waste
Recycle	Linen E-waste Food waste	Campaign	5868kg of linen 1300kg of e-waste 7% reduction in food waste
Refuse	Abuse	Advocacy	1200% increase in Code white case reporting.
Repair	Equipment	Cost containment	Reduced repair and maintenance costs by 21%
Rethink	Policy and guidelines	PDSA	1.Alignment to Joint Commission International 2.Annual reporting with the UNGC, 3.Membership of Kenya Green Building Society 4.Member of Technical Working Group – Geneva Sustainability Center 5. Member of consortium of 6 institutions to plant trees for carbon sequestration

Conclusion

M P Shah Hospital's experience demonstrates that a successful program is dependent on internal structure, sustainability is driven by the institutional structure and socio-political landscape. The internal structure composed of senior leadership involving both the board members through regular reporting and natural teams through the balance score card metrics. A top-down methodology communicated that this is a priority. The institutional factors that sustained the program are: inclusion into the strategy, budget allocation, and partnerships with both local and international partners for benchmarking and networking. Finally, inclusion of leadership is important in engaging all stakeholders. The study demonstrated diversity of the committee represented diversity of the institution, equity was demonstrated through the initiatives and innovation challenges that saw teams such as housekeeping and laundry excel, while inclusion meant involvement of family members of staff and the community to bring in old clothes, shoes and electronic waste to relevant bins in the hospital, and participate in clean ups and tree planting exercises.

Conflicts of interest related to this abstract: None

L-3008

Decarbonization and Energy Efficiency – The Trajectory of the Local Entre Douro e Vouga Local Health Unit (EDVLHU)

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Introduction

Carbon neutrality is a concept aiming for a zero balance between the emission of greenhouse gases and their sequestration from the atmosphere. For Portugal, achieving carbon neutrality means reducing greenhouse gas emissions by 85% to 90% by 2050. Hospitals, operating 24 hours a day, stand out for their high energy consumption to maintain adequate lighting and air conditioning conditions necessary for their service to the population. Given this context, EDVLHU adopts renewable energy and energy efficiency measures within the institution

Aim/Objective(s)

EDVLHU has adopted a strategic and innovative approach with the following objectives:

- Reduction of energy consumption
- Transition to renewable energy sources
- Achieve carbon neutrality
- Make a significant contribution to the sustainable development of the region where it provides services, and consequently to the country
- Obtain certification (ISO 14001) through the institution's commitment to reducing CO₂ emissions

Methods

In September 2023, a photovoltaic system was implemented, consisting of 700 panels for self-consumption. The installation was harmoniously integrated into the building's architecture, respecting static and aerodynamic loads. The building's facade was coated, and a new roof with thermal insulation and solar applications was applied to the south and west-facing windows. 3650 conventional internal and external lamps were replaced with LED technology. Three cooling water production units for the building's air conditioning systems were replaced with newer, more energy-efficient equipment.

Results

With the implementation of photovoltaic panels, EDVLHU produced 1.02 GWh of electricity in one year, avoided the release of 840.96 tons of CO₂ into the atmosphere, and saved €256,580.00, approximately 9.3% of annual consumption. The building's facade coating and new roof with thermal insulation led to an 8.4% reduction in electricity consumption, representing 353,262 kWh, and a 7.7% reduction in natural gas consumption, corresponding to approximately 534,592 kWh of energy savings. The implementation of LED lamps resulted in a reduction of approximately 418,503 kWh of consumption, about 3.4% of total consumption, with an investment of €87,520.00. The new cooling water production units allowed a reduction of 0.7% in electricity consumption, representing 68,114 kWh.

Conclusion

By adopting clean technologies, promoting energy efficiency, and integrating renewable sources, EDVLHU is deeply committed to reducing greenhouse gas emissions, aligning with global objectives to combat climate change. This effort not only promotes environmental preservation but also strengthens the institution's commitment to innovation and leadership, based on a circular economy and a low-carbon economy. The commitment of all stakeholders and collaborators involved is emphasized. Renewable energy and energy efficiency measures have been adopted

Conflicts of interest related to this abstract: None

L-3009

Implementing a Sustainable Hospital Menu: Aligning Nutrition with Environmental and Health Standards

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Introduction

Hospitals play a crucial role in promoting health. Their food systems often hold immense potential for improving diets as well as for planetary health. Aligning hospital nutrition with WHO recommendations and national dietary guidelines offers a dual opportunity: improving patient health while reducing the carbon footprint of food services.

Aim/Objective(s)

This study presents a hospital-based intervention introducing a more sustainable, plant-forward menu that aims to adhere to both health and environmental principles. For this analysis, we compared the two menu lines across all recipes ($n_{\text{Futura}} = 665$, $n_{\text{Classic}} = 663$) in 2024 and reported menu differences on health dimensions (Vita score and energy per serving) and on environmental aspects (CO₂ value and water scarcity footprint) according to Eaternity database values.

Methods

The project was conducted in the Lucerne Cantonal Hospital (LUKS) across five restaurants in two locations, serving approx. 1 million meals a year to patients, staff and guests. The implementation of a new menu strategy focused on introducing a new menu line called "Futura", which includes various sustainability and further food trends and serves as an experimental field for feasibility in large kitchens (almost exclusively plant-based meals, max. 1 animal-based dish per week). The Futura line was put on first position of the menu and CO₂ footprint labelling was put to both main menus on the menu board using Eaternity. Patient and staff acceptance surveys were performed to evaluate acceptance. Additionally, food waste was

monitored and aimed to be reduced. A charta for defining long-term goals of the hospital kitchen was published as well.

Results

The menu lines differed across health and environmental dimensions. Vita score was lower for Futura, indicating lower risk score for cardiovascular diseases. Energy per serving was higher on average for Futura. Both environmental factors were more beneficial for Futura on average: lower water scarcity (14% lower) and lower CO₂-values (-58% lower) per serving. The Futura menu showed an increased selection by +18% with staff and +9% with patients. Food Waste was reduced by -13% in 2024 (-1,68 t) (in total -55% since 2017). There was no significant cost increase within the existing budget for the new menus.

	Futura	Classic
Health indicators		
Vita Score (per serving)	390 ± 43	411 ± 47
Energy (kJ per serving)	3023 ± 943	2918 ± 930
Environmental indicators		
Water scarcity (liter per serving)	25 ± 33	29 ± 29
CO ₂ -value (g per serving)	909 ± 731	2141 ± 1938

Conclusion

A transition toward more sustainable hospital food is feasible within existing budget constraints and aligns with WHO dietary recommendations. This study highlights how hospitals can lead system change in healthcare sustainability while ensuring nutritional adequacy for patients. Future directions of the hospital kitchen lies in increasing regionality to Swiss products to 90% of procurement, further reduction of food-related CO₂-emissions and food waste.

Conflicts of interest related to this abstract: None.

L-3010

Operating Room HVAC Energy Efficiency Project

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Introduction

In response to the United Nations Sustainable Development Goals (SDGs) the TMUH Office of Sustainable Development and the Department of Anesthesiology, in collaboration with General Affairs Department, Operating Room 1 and the School of Public Health at Taipei Medical University, formed a team to optimize off-peak energy use of the existing OR-1 HVAC system through cross-departmental dialogue and cooperation. This project aims to achieve sustainable OR goals by balancing patient safety with energy reduction. Additionally, it seeks to foster a win-win outcome through inter-team communication, sharing outcomes such as clinical carbon reduction, energy cost optimization, and sustainability awareness across the hospital and university. The project also enriches students' learning experiences in sustainability through hands-on exploration and adventure.

Aim/Objective(s)

The project aims to identify feasible carbon reduction solutions that maintain operating room quality and patient safety while achieving measurable emission cuts and economic benefits. Under the ESG framework and ISO 14064-1 standards, it focuses on clinical carbon reduction and cost optimization through HVAC system analysis, with adjustments targeting off-

peak usage. Student participation in data collection and analysis enhances their sustainability learning experience. Built on existing equipment, the project undergoes scientific validation and rigorous trials, offering both demonstration value and potential for broader implementation.

Methods

Experimental Design:

On April 19 (Fri), set OR7 HVAC to 24°C and turn off HVAC in OR8. On April 20 (Sat) from 10:00, collect fungal, bacterial, and settle plate samples. Fungal and bacterial samples: every 1.5 hours. Settle plate samples: at the 1st hour, final hour, and 4-hour duration mark. After the experiment, monitor room temperature and humidity recovery for 3 hours.

Results

Most air pollutant concentrations met Taiwan's indoor air quality standards (Table 1).

Table 1. Distribution of environmental parameters of each sampling phase

Sampling phase	Parameters	Mean	SD	Min	Median	Max
Outdoor-AM	Fungi (CFU/m ³)	205	N/A	205	205	205
	Outdoor-PM	Fungi (CFU/m ³)	29	N/A	29	29
	Bacteria (CFU/m ³)	21	17	10	14	54
	Fungi (CFU/m ³)	1	2	0	0	5
	TVOC (ppb)	623.67	54.78	560	636	700
	Formaldehyde (ppb)	475	244.60	0	540	690
	Temperature (°C)	21.92	1.33	20.40	22	23.50
	RH (%)	72.02	5.83	65.80	71.30	80.10
	CO ₂ (ppm)	755.17	141.35	620	750.50	906
	CO (ppm)	0.47	0.51	0	0.45	1
Morning	O ₃ (ppb)	1.97	1.07	0.60	1.80	3.20
	PM _{2.5} (µg/m ³)	0.43	1.06	0	0	2.60
	PM ₁₀ (µg/m ³)	3.52	8.61	0	0	21.10
	TSP (µg/m ³)	4.28	8.68	0	0	21.70
	Bacteria (CFU/m ³)	29	17	10	27	59
	Fungi (CFU/m ³)	1	2	0	0	5
	TVOC (ppb)	630.17	97.73	467	641	760
	Formaldehyde (ppb)	353.33	36.15	330	335	420
	Temperature (°C)	22.53	1.20	21.20	22.60	23.90
	RH (%)	67.40	3.92	63	67.35	71.70
Noon	CO ₂ (ppm)	707.17	102.34	592	710.50	808
	CO (ppm)	0.72	0.79	0	0.65	1.50
	O ₃ (ppb)	1.83	1.30	0.40	1.75	3.40
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	0	0	0	0	0
	Bacteria (CFU/m ³)	24	16	5	27	43
	Fungi (CFU/m ³)	2	3	0	0	5
	TVOC (ppb)	576.00	77.37	466	586	670
	Formaldehyde (ppb)	283.33	56.45	230	270	380
Afternoon	Temperature (°C)	22.80	1.27	21.40	22.85	24.20
	RH (%)	67.05	3.94	62.50	67.05	71.10
	CO ₂ (ppm)	696.50	83.49	575	721	774
	CO (ppm)	0.85	0.93	0	0.80	1.80
	O ₃ (ppb)	1.70	1.23	0.40	1.45	3.70
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	0	0	0	0	0

In each phase, our team sampled at 6 different sites. For the level of outdoor fungi, our team sampled once in the morning and once in the afternoon. TVOC: Total Volatile Organic Compound; RH: Relative Humidity; TSP: Total Suspended Particulate. SD: standard deviation; Min: minimum; Max: maximum.

However, formaldehyde levels exceeded the standard of 80 ppb (1-hour value), likely due to recent construction near the operating rooms before sampling. The average total volatile organic compounds (TVOC) concentration also slightly exceeded the standard of 560 ppb (1-hour value). In Operating Room 7, the highest average concentrations of formaldehyde and TVOC were recorded at the entrance (Sampling Point 1, Room 7-1). In Operating Room 8, the highest concentrations were observed at the diagonal corner from the entrance (Sampling Point 3, Room 8-3). Other air pollutant levels complied with Taiwan's indoor air quality standards (Table 2).

Table 2. Distribution of environmental parameters of each sampling site

Sampling site	Parameters	Mean	SD	Min	Median	Max
Outdoor-AM	Fungi (CFU/m ³)	205	N/A	205	205	205
Outdoor-PM	Fungi (CFU/m ³)	29	N/A	29	29	29
Room 7-1	Bacteria (CFU/m ³)	43	11	32	43	54
	Fungi (CFU/m ³)	0	0	0	0	0
	TVOC (ppb)	693.33	58.59	650	670	760
	Formaldehyde (ppb)	473.33	195.53	310	420	690
	Temperature (°C)	23.37	0.42	22.90	23.50	23.70
	RH (%)	65.90	1.93	64.50	65.10	68.10
	CO ₂ (ppm)	815.67	80.39	752	789	906
	CO (ppm)	1.33	0.38	0.90	1.50	1.60
	O ₃ (ppb)	1	0.40	0.60	1	1.40
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	1.33	2.31	0	0	4
Room 7-2	Bacteria (CFU/m ³)	9	3	5	10	10
	Fungi (CFU/m ³)	0	0	0	0	0
	TVOC (ppb)	603.33	58.59	560	580	670
	Formaldehyde (ppb)	406.67	168.62	290	330	600
	Temperature (°C)	23.40	0.50	22.90	23.40	23.90
	RH (%)	64.80	1.99	63.60	63.70	67.10
	CO ₂ (ppm)	814.67	54.12	768	802	874
	CO (ppm)	1.37	0.42	0.90	1.50	1.70
	O ₃ (ppb)	1.70	1.54	0.40	1.30	3.40
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	0	0	0	0	0
Room 7-3	Bacteria (CFU/m ³)	19	8	10	21	26
	Fungi (CFU/m ³)	2	3	0	0	5
	TVOC (ppb)	646.67	20.82	630	640	670
	Formaldehyde (ppb)	430	132.29	330	380	580
	Temperature (°C)	23.87	0.35	23.50	23.90	24.20
	RH (%)	63.77	1.78	62.50	63	65.80
	CO ₂ (ppm)	817.67	49.22	774	808	871
	CO (ppm)	1.37	0.40	1	1.30	1.80
	O ₃ (ppb)	1.40	0.95	0.50	1.30	2.40
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	0	0	0	0	0
Room 8-1	Bacteria (CFU/m ³)	27	11	14	34	34
	Fungi (CFU/m ³)	0	0	0	0	0
	TVOC (ppb)	544.33	134.81	466	467	700
	Formaldehyde (ppb)	206.67	188.77	0	250	370
	Temperature (°C)	21.13	0.64	20.40	21.40	21.60
	RH (%)	74.17	5.14	71.10	71.30	80.10
	CO ₂ (ppm)	614	19.70	592	620	630
	CO (ppm)	0	0	0	0	0
	O ₃ (ppb)	3	0.82	2.10	3.20	3.70
	PM _{2.5} (µg/m ³)	0.87	1.50	0	0	2.6
	PM ₁₀ (µg/m ³)	7.03	12.18	0	0	21.10
	TSP (µg/m ³)	7.23	12.53	0	0	21.70
Room 8-2	Bacteria (CFU/m ³)	16	10	5	19	23
	Fungi (CFU/m ³)	0	0	0	0	0
	TVOC (ppb)	559.67	51.50	508	560	611
	Formaldehyde (ppb)	353.33	120.55	240	340	480
	Temperature (°C)	21.10	0.36	20.70	21.20	21.40
	RH (%)	73.07	2.99	71	71.70	76.50
	CO ₂ (ppm)	605	25.98	575	620	620
	CO (ppm)	0	0	0	0	0
	O ₃ (ppb)	2.73	0.72	1.90	3.10	3.20
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	0	0	0	0	0
Room 8-3	Bacteria (CFU/m ³)	34	23	14	29	59
	Fungi (CFU/m ³)	5	0	5	5	5
	TVOC (ppb)	612.33	26.27	592	603	642
	Formaldehyde (ppb)	353.33	136.50	230	330	500
	Temperature (°C)	21.63	0.47	21.10	21.80	22
	RH (%)	71.23	2.83	69.60	69.60	74.50
	CO ₂ (ppm)	650.67	34.08	630	632	690
	CO (ppm)	0	0	0	0	0
	O ₃ (ppb)	1.17	1.00	0.40	0.80	2.30
	PM _{2.5} (µg/m ³)	0	0	0	0	0
	PM ₁₀ (µg/m ³)	0	0	0	0	0
	TSP (µg/m ³)	0	0	0	0	0

At each sampling site, our team sampled at 3 different times: morning, noon, and afternoon respectively. For the level of outdoor fungi, our team sampled once in the morning and once in the afternoon. TVOC: Total Volatile Organic Compound; RH: Relative Humidity; TSP: Total Suspended Particulate. SD: standard deviation; Min: minimum; Max: maximum.

Conclusion

During operating room downtime showed that HVAC shutdown or temperature adjustments did not increase infection control risks, with temperature and humidity remaining within standard operating room requirements. Energy-saving outcomes from this trial, if extended to all 12 operating rooms in the First OR suite (excluding 2 negative-pressure rooms), are projected as follows: Temperature adjustment (19°C to 22°C): Annual savings of 138,758.42 kWh and NT\$473,040. HVAC shutdown: Annual savings of 150,584.4 kWh and NT\$512,460. Next, the team plans to conduct infection control experiments across different seasons using the same standards. If outcomes remain stable, this initiative may be promoted within the healthcare industry, aiming to set a benchmark for other hospitals.

Conflicts of interest related to this abstract: None

L-3011

SALUN-AT Project: Sustaining Actions for a Low-carbon, Unified, and Nature-Aligned healthcare Transformation

Mr. John Mher Puriran Green Viability Assessment Focal Person

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Introduction

The Black Nazarene Hospital, Inc. acknowledges the significant contribution of the healthcare sector to global greenhouse gas emissions, posing a challenge to institutions dedicated to protecting public health. In response, the hospital launched the SALUN-AT Project (Sustaining Actions for a Low-Carbon, Unified, and Nature-Aligned Healthcare Transformation), a sustainability initiative aimed at transitioning the hospital into a low-carbon, climate-resilient healthcare facility while maintaining high-quality health services. "Salun-at," an Ilocano term for health and well-being, reflects the hospital's commitment to environmental stewardship. The project implements diverse strategies such as renewable energy utilization, waste management, water conservation, and sustainable procurement to reduce healthcare-related greenhouse gas emissions. Recognizing the critical link between healthcare operations and environmental impact, the hospital proactively integrates green practices, aligning healthcare delivery with environmental responsibility. Through the SALUN-AT Project, the hospital fosters a healthier community while contributing to global climate action, demonstrating its leadership in sustainable and resilient healthcare.

Aim/Objective(s)

The SALUN-AT Project of TBNHi aims to transition the facility into a low-carbon, environmentally sustainable healthcare model aligned with global net-zero healthcare targets. This initiative is designed to reduce the hospital's carbon footprint by maximizing the use of renewable energy, such as its on-the-grid solar power system. It also focuses on enhancing resource efficiency through improved waste management, water conservation, and sustainable procurement practices. Additionally, the project emphasizes community engagement to promote environmentally responsible healthcare practices beyond hospital premises. A critical component of the project is establishing baseline data to monitor and reduce greenhouse gas emissions, ensuring continuous progress toward sustainability goals. The hospital also integrates green practices into patient care and daily operations, fostering a culture of environmental stewardship. Through the SALUN-AT Project, the hospital demonstrates its commitment to delivering high-quality healthcare services while reducing its environmental impact, aligning itself with the broader movement toward climate-resilient healthcare.

Methods

The Black Nazarene Hospital, Inc. employs a multi-faceted approach to sustainability through its SALUN-AT Project, driving low-carbon and climate-resilient healthcare. The hospital installed an on-the-grid solar power system, with plans to add battery storage to maximize energy utilization. To minimize waste, it enforced a non-entry policy for single-use plastics and strengthened recycling initiatives. A sewage treatment facility (STF) utilizing an integrated fixed film active sludge system with multimedia filtration ensures the discharge of clean, odorless wastewater. Supporting sustainable nutrition, the hospital utilizes its farm to supply locally-sourced, organic produce for patient meals, reducing the carbon footprint of food procurement. Additionally, the hospital implemented data gathering on energy and water consumption and established carbon footprint metrics for continuous monitoring and reduction. These integrated efforts demonstrate the hospital's commitment to sustainable healthcare, setting a benchmark for resource efficiency, waste reduction, and climate action while promoting healthier communities.

Results

The SALUN-AT Project has significantly reduced The Black Nazarene Hospital, Inc. (TBNHi)'s environmental impact while improving efficiency and sustainability. Through energy-saving measures, the hospital lowered electricity consumption by 17%, from 511,960 kWh in 2021 to 424,180 kWh in 2023. The installation of a 2x60.72 kWp on-the-grid solar power system increased renewable energy yield from 73.98 MWh in 2023 to 106.95 MWh in 2024, generating Php 1,069,500 in savings. Fuel consumption was also reduced by 78%, from 8,350 liters in 2021 to 1,845 liters in 2023, further cutting emissions. Enhanced waste management strategies led to a 27.7% decrease in general waste, from 280.04 kilos in 2020 to 200.27 kilos in 2023, while a non-entry policy for single-use plastics contributed to a 20% reduction in plastic use. The hospital's Sewage Treatment Facility (STF) now effectively treats wastewater, ensuring clean, odorless discharge. Additionally, the hospital-owned farm supports farm-to-table meals, improving food quality and increasing patient satisfaction by 15%. Through these initiatives, TBNHi has become a model for climate-resilient healthcare, driving impactful change toward a low-carbon, resource-efficient, and sustainable future.

Conclusion

The SALUN-AT Project exemplifies The Black Nazarene Hospital, Inc.'s commitment to sustainable and climate-resilient healthcare. By integrating renewable energy, waste reduction, water conservation, and sustainable procurement, the hospital has significantly lowered its environmental impact while maintaining high-quality patient care. The reduction of electricity consumption by 17%, the 78% decrease in fuel use, and the 27.7% decline in general waste generation demonstrate the hospital's proactive approach to environmental stewardship. Beyond operational efficiencies, the project has also contributed to financial savings, with Php 1,069,500 generated through renewable energy in 2024 alone. The successful implementation of a sewage treatment facility and farm-to-table meal provisions further reinforces the hospital's commitment to sustainability, improving sanitation and patient satisfaction. As a recognized leader in green healthcare, TBNHi continues to inspire other institutions by proving that environmental responsibility and excellent healthcare services can go hand in hand. Moving forward, the hospital remains dedicated to scaling its sustainability initiatives, setting ambitious goals for energy efficiency, waste minimization, and community engagement. Through the SALUN-AT Project, TBNHi is not only safeguarding public health but also pioneering transformative actions toward a low-carbon and environmentally resilient healthcare system.

Conflicts of interest related to this abstract: None

L-3012

Sustainable Healthcare at Narayana Health: Resilient and Low-Carbon Practices for a Healthier Planet"

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Introduction

Narayana Health is dedicated to integrating sustainability into healthcare by adopting resilient, low-carbon practices to combat environmental challenges. As a leading healthcare provider with over 6,000 operational beds across 19 hospitals, we recognize the significant environmental impact of healthcare systems, particularly in water consumption, waste generation, and carbon emissions. Our commitment to sustainability includes transitioning to renewable energy sources, optimizing water usage, and implementing waste reduction strategies. We also focus on setting and achieving ambitious ESG (Environmental, Social, and Governance) targets to reduce our carbon footprint. By embedding these sustainable practices within our healthcare facilities, we aim to provide high-quality, affordable care while contributing to a healthier planet. This approach aligns with our overarching goal to build a resilient healthcare ecosystem that delivers long-term value to our patients, communities, and stakeholders.

Aim/Objective(s)

The project aims to position Narayana Health as a leader in sustainable healthcare by integrating resilient, low-carbon practices that enhance patient care while safeguarding the environment. The core objectives include:

1. Reducing Carbon Emissions: Transitioning to renewable energy sources, enhancing energy efficiency.
2. Water Conservation: Adopting water-efficient technologies, recycling treated wastewater for non-potable uses, and ensuring sustainable water management, particularly in water-stressed regions.
3. Waste Management: Strengthening waste segregation, promoting recycling, reducing hazardous waste, and ensuring responsible disposal to minimize environmental impact.
4. ESG Target Setting and Performance Tracking: Establishing measurable ESG targets aligned with global sustainability frameworks and integrating periodic performance assessments and transparent reporting.
5. Building Resilient and Sustainable Healthcare Systems: Embedding low-carbon, resource-efficient solutions across all facilities to enhance resilience, ensure regulatory compliance, and support long-term sustainability.
6. Stakeholder Engagement and Awareness: Fostering sustainability awareness among employees, patients, and stakeholders through continuous engagement and capacity-building initiatives.

Methods

The project adopts a structured, multi-phase approach to integrate sustainable, low-carbon practices across Narayana Health's facilities. An initial materiality assessment identified key environmental impact areas, engaging stakeholders including management, employees. Data collection involved site-level audits, energy and water consumption analysis, and waste management reviews using standardized templates. Sampling included data from all 19 hospitals, with a focus on facilities located in water-stressed regions. Renewable energy potential, water usage efficiency, and waste generation were assessed through third-party audits and internal evaluations. Performance tracking employed KPIs aligned with ESG targets, with

data analyzed for gaps and improvement areas. Regular monitoring, third-party validations, and ESG reporting ensure accuracy and transparency. Insights from this process inform strategic planning, ensuring continuous improvement and alignment with global sustainability standards.

Results

Narayana Health (NH) integrates Environmental, Social, and Governance (ESG) principles into its core operations to deliver sustainable and affordable healthcare. Key outcomes include:

- **Stakeholder Engagement & Materiality:** NH conducted comprehensive ESG Materiality Assessments involving internal and external stakeholders, ensuring alignment with critical ESG issues and corporate strategy. Peer benchmarking identified performance gaps, leading to targeted action plans.
- **ESG Focus Areas & Targets:** NH's ESG framework focuses on "Healthy Planet," "Healthy Society," and "Healthy Institution," aligning with UNSDGs. Specific targets include achieving a 35% renewable electricity
- **mix by 2030** – successfully attained in FY 2024-25 with a 34.83% mix, resulting in ₹9.4 crores annual savings and a reduction of over 28,000 tons of carbon emissions.
- **Energy & Water Efficiency:** Transitioning to energy-efficient technologies saved ₹4.04 crores in FY 2024-25, reducing energy consumption by 4.92 million units. Water intensity reduced by 6% to 1.21 KL/occupied bed/day, with 50% of recycled water reused for non-portable purposes.
- **Waste Management:** Achieved biomedical waste intensity of 1.71 kg/occupied bed/day, ensuring safe, compliant waste segregation and disposal.

- **Governance Framework:** Oversight through the Board, ESG Steering Committee, and functional hospital-level committees ensures regular monitoring and alignment with ESG goals.

Conclusion

Narayana Health's commitment to sustainable healthcare through resilient, low-carbon practices not only addresses pressing environmental challenges but also enhances the quality and efficiency of health services. By optimizing water usage, reducing waste, and transitioning to renewable energy, we ensure that our healthcare delivery remains efficient, affordable, and environmentally responsible. These initiatives directly contribute to creating safer, healthier environments for patients and communities while reducing operational risks and long-term costs.

Our approach fosters innovation in healthcare sustainability, offering a model that can influence broader policy frameworks and best practices within the sector. By setting ambitious ESG targets and integrating sustainability into core operations, we contribute to research and knowledge that can shape future healthcare strategies. This commitment strengthens our position as a responsible healthcare provider and supports the global movement toward sustainable, resilient health systems. Ultimately, our efforts aim to ensure that quality healthcare does not come at the expense of planetary health, securing long-term well-being for both people and the environment.

Conflicts of interest related to this abstract: None

TRACK 3: ENVIRONMENTALLY SUSTAINABLE, RESILIENT, AND LOW-CARBON HEALTHCARE: GREENING HEALTHCARE SYSTEMS: FROM FACILITY UPGRADES TO GLOBAL TOOLS

L-3013

Healthcare services and ecological transition: an alliance between institutions in Bergamo, Italy

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Introduction

The reduction of the carbon footprint of healthcare services is not a new topic, but the activities that characterize a "green" healthcare service are not yet clear to everyone. At international level, many healthcare facilities are committed to developing plans for containing greenhouse gas emissions. However, in Italy this topic remains largely unexplored, there are no institutional projects aimed at decarbonizing the healthcare system. Bergamo is one of the 112 cities participating in the EU Mission "NetZero Cities". These cities have committed to achieving climate neutrality by 2030, 20 years earlier than all the others. They will represent the model of reference for other European cities and commit themselves to put environmental issues at the centre of local policies. This led to the idea of creating an inter-institutional working group, to bring together the

province healthcare authorities and institutions to work on implementation of sustainability projects inside healthcare facilities.

Aim/Objective(s)

1. Creating a stable collaboration between healthcare institutions and authorities involved in the project, creating a working group, promoting actions to improve sustainability/reduce ecological impact of their hospitals and continuously monitoring and updating processes and outcomes related to those actions.
2. Providing evidence-based practical indications to promote sustainability in the Italian healthcare sector in the Italian context in general.
3. Disseminating project results and communicating evidence about sustainability in the Italian healthcare system and foster dialogue between stakeholders

Methods

A systemic, interdisciplinary, holistic approach was used. In particular:

1. Stakeholder discussion [related to objective a.]
2. Creation of a working group of key professionals, who drafted a toolkit (based on current literature), called "Manuale per ridurre l'impronta climatica dei servizi sanitari", to assist Healthcare Facilities and professionals that intend to engage in decarbonization and to raise awareness about the need to carry out daily activities with the principles of environmental sustainability and to assess the consequences of decisions also from the point of view of the environment, trying to adopt the most sustainable solutions. It gives a methodology to estimate the GHG emission, in terms of CO₂

equivalent, it provides tools and equations for these calculations and tables with emission factor values to serve as reference points for calculating CO₂ emissions [related to objective b].

3. Organization of a conference and creation of a newsletter [related to objective c.]

Results

The project had an impact on stakeholders, that implemented different projects, beginning with the appointment of a Corporate Green Team, to drive sustainability inside the company. They all signed the Climate City Contract, proposed by the Municipality and dedicated to implement selected actions, e.g. ASST Bergamo Est drastically reduced the use of desflurane and reduced the number of inappropriate x-ray before surgery. ASST Papa Giovanni XXIII built a Bicycle Station, renovated territorial buildings respecting the principle of "Do Not Significant Harm", implemented the "Green Menu" in the hospital canteen and nominated an Energy Manager and a Mobility Manager. Mario Negri dedicated specifically to chemicals sustainability and instituted a unit called "Environmental Sustainability Unit for Industrial and Healthcare Systems". The medical association started a newsletter called "Green Pills" sent to all doctors in the province (over 6,000) regarding the decarbonization of health services. These are just some of the implemented projects. The Medical Association organized a conference to address the issue of sustainability in healthcare systems, during which the manual was presented. During the day, local, regional, and national authorities, and scientific societies took part in the discussion to open a dialogue on the current state of the topic in Italy.

Conclusion

The project was born to have a wide impact: in the first instance it impacted on the working group stakeholders' leadership, who benefited from the comparison with other organizations for the implementation of best practices. It allowed the creation of a stable working group, motivated to drive change in sustainability. The conference allowed for a fruitful exchange of ideas and for contacts between professionals interested in sustainability in healthcare systems. Thanks to the project, other cities are now replicating the creation of an inter-institutional working group. Thanks to the toolkit several professionals and companies reached out to get information on the project and to try to initiate sustainability projects inside their context. Awareness was raised in a diverse audience, composed by both healthcare system leaders and individual professionals. Hospitals, Healthcare Organizations and Health professionals can easily adopt and replicate the project. The city of Brescia started a similar working group coordinated by the local Healthcare Public Authority. Health service manager and personnel must realise that our health is influenced by the interaction between man and nature: preserving the environment is also our ethical and professional responsibility, and change is possible without compromising, possibly enhancing, the quality and safety of care.

Conflicts of interest related to this abstract: none

L-3014

Establishing Sustainable Hospital: Measurement and Achievement at King Saud University Medical City (KSUMC)

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Introduction

King Saud University Medical City (KSUMC), a leading tertiary academic medical center in Saudi Arabia, recognizes the critical need for sustainable healthcare practices. With a foundation built on pioneering green initiatives since 2018, starting with water efficiency and progressing to significant energy conservation, KSUMC has demonstrated a commitment to reducing its environmental footprint. Notably, KSUMC achieved a 31% energy consumption reduction, diminishing carbon emissions by 34,646 tons annually. As the first healthcare facility in the Kingdom to embrace solar energy and actively manage waste, KSUMC aims to establish itself as a regional benchmark for sustainable hospital operations. By aligning with global standards, including the Global Green and Healthy Hospitals Network, EFLM's "Green & Sustainable Laboratories" certification, and engaging with the UN's SDGs, KSUMC is dedicated to fostering a greener, more equitable future.

Aim/Objective(s)

King Saud University Medical City (KSUMC) is committed to becoming the premier green and sustainable medical city in the Middle East as nonprofit organization. Our Objective is:

- Establish KSUMC as a regional benchmark for green and sustainable medical city operations.
- Develop and implement a robust leadership strategy and governance framework for green and sustainable hospital initiatives.
- Lead in significantly reducing our carbon footprint and carbon emissions.
- Enhance awareness and promote the adoption of green and sustainable hospital practices within the healthcare community.
- Maintain a commitment to continuous improvement by staying abreast of the latest sustainable best practices.
- Demonstrate strong leadership and governance in the development of green and sustainable hospital initiatives.

Methods

This project utilizes a mixed-methods approach to assess and enhance sustainability at KSUMC. Quantitative data reveals significant reductions: water consumption decreased by 14-15% through faucet aerators and leak maintenance, while energy consumption is targeted for a 31% reduction (40,573,297 kWh annually). These efforts have led to a total carbon emission reduction of 34,646 tons, with 2,746 tons saved from solar panels and 31.9 thousand tons from energy efficiency measures, translating to \$3.29 million in annual savings. Medical waste generation dropped from 1,744,416 kg (2020-2021) to 1,379,397 kg (2022). Solar panels contribute 0.514 MWh (KAUH) and 3 MWh (KKUH) annually. Qualitative achievements include KSUMC's GGHH membership, EFLM recognition for its medical laboratory, pioneering adoption of the Sustainability Accelerator Tool (SAT), and becoming the first governmental healthcare institution in the Middle East to join the United Nations Global Compact, reinforcing its leadership in sustainable healthcare.

Results

Since initiating its sustainability journey in 2018, King Saud University Medical City (KSUMC) has achieved significant environ-

mental milestones. Through water efficiency measures, including faucet aerators and proactive leak maintenance in collaboration with the Saudi National Water Company, KSUMC reduced water consumption by 14–15%. In 2019, KSUMC launched an energy conservation program with the National Energy Services Company (TARSHID), targeting a 31% reduction in energy consumption, amounting to 40,573,297 kWh annually. This initiative has successfully decreased carbon emissions by 31.9 thousand tons per year. Additionally, the installation of solar panels in nine buildings has further reduced energy consumption and cut carbon emissions by an additional 2,746 tons annually, bringing the total reduction to 34,646 tons – equivalent to the carbon sequestered by 519,703 tree seedlings over ten years.

Waste management efforts led to a decrease in medical waste from 1,744,416 kg in 2020–2021 to 1,379,397 kg in 2022. KSUMC also implemented hazardous materials safety measures, including controlled chemical storage and dilution systems. These efforts have positioned KSUMC as a leader in sustainable healthcare, earning recognition from the GGHH and JCI- SAT tool, EFLM's Green & Sustainable Laboratories certification, and participation in the United Nations Global Compact, reinforcing its commitment to global sustainability goals.

Conclusion

King Saud University Medical City (KSUMC) has demonstrated a strong commitment to sustainability through innovative and impactful initiatives. By integrating water conservation, energy efficiency, renewable energy adoption, waste reduction, and hazardous material management, KSUMC has significantly reduced its environmental footprint. The 31% reduction in energy consumption, elimination of 34,646 tons of carbon emissions annually, and a 21% decrease in medical waste reflect KSUMC's leadership in green healthcare. These sustainability efforts contribute to improving healthcare services by enhancing operational efficiency, reducing costs, and promoting a healthier environment for patients and staff. Furthermore, KSUMC's participation in global sustainability frameworks – such as the Global Green and Healthy Hospitals Network, EFLM's Green & Sustainable Laboratories certification, and the United Nations Global Compact – positions it as a regional benchmark for sustainable hospital practices. The adoption of the Sustainability Accelerator Tool (SAT) and pursuit of the JCI Healthcare Sustainability Certification highlight KSUMC's role in shaping future policies and best practices in sustainable healthcare. Through continuous innovation and strategic partnerships, KSUMC is not only meeting but setting new standards for environmental responsibility in the healthcare sector, contributing to Saudi Arabia's Vision 2030 and global sustainability goals.

Conflicts of interest related to this abstract: None

L-3015

Navigating the Transition: A Mapping of Tools for Climate-Resilient, Low-Carbon Healthcare Systems and Facilities

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Introduction

Climate change threatens human health and healthcare systems, exacerbating extreme weather events, emerging infectious diseases, and environmental degradation. Healthcare systems both provide essential services and contribute ~5% of global GHG emissions. In response to international commitments like the Paris Agreement and COP26/28 initiatives, they are prioritizing climate resilience and sustainability. However, transitioning to low-carbon, climate-resilient healthcare is complex due to fragmented knowledge, inconsistent policies, and an overwhelming number of available tools. Practitioners, healthcare leaders, and policymakers struggle to identify the most relevant resources. This project addresses that challenge by systematically mapping, cataloging, and organizing existing tools, frameworks, and guidelines.

By providing a structured overview, it supports healthcare system managers, hospital directors, and facility leaders in effectively adopting climate adaptation and mitigation strategies, ensuring a more sustainable and resilient healthcare sector.

Aim/Objective(s)

The primary objectives of this project are:

- To identify and catalog tools, frameworks, and guidelines that support transforming healthcare systems and services into climate-resilient and low-carbon models.
- To assess the tools for accessibility, level of implementation (system vs facility), goals (adaptation vs mitigation), geographical focus (LMICs vs HICs or Global/general), type, and thematic area (based on WHO's operational framework for building climate resilient and low carbon health systems).
- To identify gaps, challenges, and barriers in existing tools and propose recommendations.
- To provide actionable insights for healthcare managers, policymakers, and facility operators to integrate sustainability into healthcare services effectively.

Methods

This study employed a systematic mapping approach, drawing on the methodology outlined by James et al. (2016) while adapting specific steps to fit the research objectives. The process involved defining the research scope and inclusion/exclusion criteria, engaging stakeholders, and developing an a-priori protocol. Two stages of screening – title/abstract and full-text review – were conducted to ensure rigor in selection. Eligibility criteria were established using a modified PICO/PIO framework, focusing on healthcare systems, hospitals, clinics, and public health institutions implementing climate resilience and low-carbon transformations. Tools, frameworks, and guidelines were sourced from gray literature, including WHO, Health Care Without Harm, Geneva Sustainability Center, and Practice Greenhealth, alongside expert consultations. Data extraction was performed using an Excel matrix, categorizing tools by characteristics, accessibility, implementation level, goal, geographic

scope, and thematic focus. Findings were synthesized to assess their applicability to healthcare decarbonization and resilience.

Results

Between November 2024 and February 2025, we mapped 126 tools supporting climate-resilient and low-carbon health systems and services. Results indicate a significant rise in publications since 2021, with 73% of tools published between 2021 and 2024. Most tools (77%) were designed for general or global use, while 13% targeted low- and middle-income countries and 10% focused on high-income settings. Over half of the mapped tools support climate change mitigation, while adaptation tools account for only 18%. An additional 28% address both adaptation and mitigation. Regarding application levels, 51 tools were developed for healthcare facilities, 32 for healthcare systems, and 43 for both. Tools were identified across all WHO building blocks for climate resilient and low-carbon health systems and facilities: Health Information System (Vulnerability and Capacity Assessments, Early Warning Systems, Risk Monitoring, and Research); Leadership and Governance; Finance; Infrastructure, Technologies and Products; Energy; WASH and Waste; Health Workforce; Service Delivery (Emergency preparedness and Response, Climate informed health programmes). However, distribution varied, with fewer tools available for finance and health workforce development.

Conclusion

The mapping highlights a significant increase in available tools since 2021, reflecting growing efforts to support climate-resilient and low-carbon health systems and services. However, gaps remain in both focus and contextualization to different climate vulnerabilities and capabilities. While most tools are designed for general or global use, relatively few specifically address the needs of low- and middle-income countries, where climate change poses the greatest health risks. Additionally, mitigation is prioritized over adaptation, despite the urgent need for health systems to prepare for climate-related disruptions. A comprehensive approach that integrates both mitigation and adaptation is essential for effective climate action. Mitigation addresses the causes of climate change such as reducing GHG emissions according to Net Zero objectives, while adaptation focuses on decreasing vulnerabilities and exposures, by preparing for and managing climate hazards. Furthermore, tool distribution across WHO's building blocks indicates gaps in key areas such as finance, health workforce capacity, and climate-informed programmes, which are critical for implementation at scale. To maximize impact, future tool development should prioritize geographic and economic contextualization, ensuring accessibility for diverse health systems. Strengthening synergies between mitigation and adaptation, alongside targeted support for underrepresented areas, will be key to building resilient, low-carbon healthcare systems globally.

Conflicts of interest related to this abstract: None

L-3016

Switch from disposable to reusable patient monitoring accessories and centralized ownership

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Introduction

Karolinska serves over a million patients annually across two sites. At the Solna site, the reliance on single-use patient monitoring accessories has resulted in substantial waste and emis-

sions, posing significant environmental and financial costs. Annually, 135,000 disposable blood pressure cuffs, SpO2 sensors and ECG cables, are used, costing nearly 11 million SEK, with a disproportionately high environmental impact relative to their short lifespan. Given that a major portion of Karolinska's emissions are consumption-based (scope 3), there is an urgent need to adopt more sustainable and resource-efficient practices. The monitoring equipment follows patients across departments, requiring a simultaneous hospital-wide switch to reusable accessories. The project aligns with the hospital's sustainability policy and its goal to reduce emissions by 40% by 2027. It addresses departmental requests for a centralized sustainable solution, enhancing resilience against supply disruptions and fostering a culture of sustainability, ultimately contributing to improved patient care and operational efficiency.

Aim/Objective(s)

The primary aim of the project is to transition Karolinska University Hospital to a more sustainable and resilient healthcare model by replacing single-use patient monitoring accessories with reusable alternatives. This transition is intended to significantly reduce the hospital's environmental impact, enhance supply chain resilience, and decrease operational costs.

Objectives:

- Implement a hospital-wide switch to reusable patient monitoring accessories, responding to departmental requests and aligning with the hospital's sustainability policy and the goal to cut emissions by 40% by 2027.
- Establish a centralized storage system and increase inventory at the Region's distributor to mitigate supply chain vulnerabilities and ensure consistent availability of essential accessories.
- Achieve substantial cost reductions for monitoring accessories, fulfilling a longstanding request from departments and supporting Region Stockholm's objective to lower expenses for accessories and consumables.

Methods

The medical technology department led the initiative, collaborating with over 100 hospital units to ensure a seamless transition across departments. Key external stakeholders included our supplier and the company for logistics support. Data collection focused on emissions, cost savings, and supply chain efficiency. Smart central storage systems are being implemented to manage inventory, track usage, and facilitate the redistribution of reusable accessories. This system allowed for precise monitoring of stock levels and usage patterns across departments. A literature analysis was conducted to evaluate the environmental impacts and procurement data was analyzed to assess cost benefits of transitioning from disposable to reusable patient monitoring accessories. The analysis incorporated data from existing studies on environmental impacts of medical products, enabling relatively reliable emission and cost-saving projections. Regular feedback loops with hospital staff ensured continuous improvement and adaptation of the process to meet departmental needs and sustainability goals.

Results

The transition to reusable patient monitoring accessories at Karolinska is expected to deliver significant environmental, economic, and operational benefits. By substituting disposable blood pressure cuffs, SpO2 sensors, and EKG cables with reusable alternatives, each with an average lifespan of 2 years, the initiative is projected to save several tons of waste and approximately 22 tons of CO2e annually. This reduction is equivalent to the emissions of about three Swedish citizens or a car journey 2.5 times around the world. For blood pressure cuffs, emissions can be reduced from 0.36 kg CO2e per disposable cuff to 0.063 kg CO2e, saving 0.3 kg CO2e per use based on a low-savings scenario in a typical ward (Sanchez, Eckelman, &

Sherman, 2020). Reusable SpO2 sensors become more environmentally efficient after 2.3 uses, with potential savings of 9.7 tons of CO2e from replacing 65,074 disposables annually (Duffy, Slutzman, Thiel, & Landes, 2023). The smart central storage system enhances inventory management by enabling precise tracking of stock levels and usage patterns, thus reducing supply chain vulnerabilities and ensuring consistent availability of essential accessories. Economically, the project is expected to save approximately 9 million SEK annually, as the cost of disposables exceeds that of reusables after a few uses.

Conclusion

The transition to reusable patient monitoring accessories at Karolinska represents a significant advancement in sustainable healthcare practices. Addressing the issue of excessive waste and emissions from single-use accessories, this project contributes to substantial environmental and financial improvements. The reduction of approximately 22 tons of CO2e annually and significant waste savings align with Karolinska's sustainability goals, demonstrating a commitment to reducing consumption-based emissions. This initiative not only fulfills departmental requests for a centralized sustainable solution but also enhances the hospital's resilience to supply chain disruptions, ensuring consistent availability of essential accessories. The innovative smart central storage system exemplifies a forward-thinking approach to inventory management, allowing tracking of stock levels and usage patterns. This system mitigates past supply shortages and sets a precedent for other healthcare institutions aiming to improve operational efficiency. The project's success highlights the potential for policy shifts towards more sustainable procurement practices, encouraging the adoption of reusable medical products across the healthcare sector. It also contributes to research by providing a model for evaluating the environmental and economic benefits of reusable versus disposable medical accessories. Ultimately, this initiative fosters a culture of sustainability, enhancing patient care by aligning healthcare practices with environmental stewardship and operational excellence.

Conflicts of interest related to this abstract: None

L-3017

University Hospital Mollet, a Net Zero facility thanks to its quality strategy, continuous improvement, results-driven approach, and indicator analysis.

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Introduction

Health centers contribute 4.4% of CO2 emissions in Europe. The purpose of the FSM is to "improve the lives of our people", committing ourselves not only to health, but also to the community and specifically to the environment, reducing our environmental impact. For this reason, in 2012, just two years after the hospital opened its doors, it obtained ISO 14001 and 50001 certifications for environmental and energy management, aligning with voluntary CO2 reduction agreements by the Catalan Office of Climate Change. It drafted annual emission reduction plans and energy management reports, leveraging data for emission reduction strategies.

Aim/Objective(s)

The main objective of Mollet Hospital from the beginning has been to minimize environmental impact, rooted in governance, as evidenced through its policies and strategic plans. As a publicly funded center, implementing any action to reduce carbon footprint must be studied beforehand, prioritizing those with the

greatest impact, as it's not feasible to execute all desired actions at once. Therefore, the strategy of continuous improvement, focused on results, and indicator analysis has allowed us to establish strategic plans, quantifiable objectives, concrete actions, and subsequently evaluate their effectiveness, enabling us to accelerate our decarbonization journey to become a NetZero hospital in direct emissions. Likewise, it has also enabled us to develop a roadmap to total NetZero, setting quantifiable objectives to completely eliminate indirect emissions by 2040.

Methods

Various methodologies are used to establish and measure sustainable healthcare standards:

Quality and continuous improvement:

- ISO 14001 and 50001 certifications since 2012.
- Voluntary CO2 reduction agreements with the Catalan Climate Change Office since 2012 (annual CO2 calculations).
- Adoption EFQM standards since 2016 (+600 seal in 2023).
- Joint Commission certification in 2021, verifying compliance with new Sustainable Healthcare Certification Standards in 2023.

Benchmarking and collaboration

- Participation in technical advisory councils of the Catalan Union of Hospitals: Health and climate; Social Responsibility; etc.
- Executive Member in Health Care Without Harm and Sanidad por el Clima.

Utilization of applications

- Testing the Geneva Sustainability Center's Sustainability Accelerator Tool (SAT) to gauge hospital maturity levels in environmental sustainability, climate resilience, health equity, wellness, and leadership.

Stakeholder feedback

- Conducting sustainability surveys among professionals.

Process improvements

- Installing electricity, gas, and water meters per process.
- Quantifying biological waste generation/process.

Results

A results-oriented strategy and commitment to quality and continuous improvement have been key to achieving our goals.

Regarding indicators, we have a dashboard that includes:

- Evaluation of more than 60 different environmental aspects.
- Energy indicators, water consumption, and 29 waste indicators for all processes based on their activity.
- Indicators of product and consumable material consumption.
- Indicators of user and professional mobility.
- Perception and opinion indicators of stakeholder groups.
- Benchmarking with other workplaces.

Thanks to this, we have achieved the objective of the 21-25 strategic plan to be a NetZero hospital in direct emissions. Reducing electricity consumption by 18% and water consumption by 36% over 13 years despite a 50% increase in activity. The green culture reaching our professionals, as demonstrated by survey results. Being a benchmark for other healthcare centers, as evidenced by the recognitions received and the participation and collaboration in international projects and events.

Conclusion

As a healthcare centre providing public services, precision in implementing actions and correctly and efficiently using budgetary resources is crucial. Having implemented management systems and focusing on continuous improvement, from results analysis and indicator tracking, allows us to carry out actions

that will have a significant impact, as in the Green Hospital project's decarbonisation of our activities. It also enables the proper and efficient use of the economic resources available. Thanks to this, we have become more sustainable in all environmental, healthcare, and economic aspects, demonstrating that environmental sustainability impacts healthcare and economic sustainability, even if results are sometimes seen in the medium term.

Conflicts of interest related to this abstract: None

L-3018

Vital signs of change: Patient and provider perspectives on climate-smart healthcare

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Introduction

Climate change is considered the biggest public health threat of the 21st century, exposing growing populations to hazardous conditions including extreme heat, drought, floods, wildfires, and hurricanes. These trends will undoubtedly increase the strain on healthcare systems around the world, many of which are still recovering from the recent Covid-19 pandemic. Concurrently, health systems must prepare for disruptions in critical health services due to extreme climate events which can endanger patients and workers and may cause billions of dollars in damages to facilities. Addressing the climate crisis should therefore be a top priority for health systems. Yet, ironically, the global health sector itself contributes to the climate crisis as one of the most carbon-intensive service sectors in the world, thereby undermining the health outcomes of current and future generations. To future-proof patient care, it is crucial that healthcare systems reduce their emissions and increase their resilience.

Aim/Objective(s)

Despite growing awareness around the need for climate-resilient, low-carbon health systems, there has been scarce research on this topic from the viewpoint of those directly affected by these changes. The aim of this research is thus to understand stakeholders' perspectives of "climate-smart" healthcare in the United States, including the views, experiences, opinions and attitudes of healthcare workers and patients. Because the U.S. health sector is the most polluting health system in the world (both in absolute and per capita greenhouse gas emissions), it ranks as the highest priority for health system decarbonization and is therefore the focus of this project.

Methods

Two separate online surveys were conducted between January-March 2025 to gather the perspectives of healthcare workers and recently released patients at U.S. hospitals. Participants for both surveys were recruited and compensated through the *CloudResearch* platform. To be eligible for the healthcare worker survey, participants had to be currently employed at a U.S. hospital. For the patient survey, participants must have been an overnight patient at a U.S. hospital during the 2024 calendar year. In addition, both surveys required a minimum age of 18 years and fluency in English to participate. Both surveys

covered a breadth of questions related to sustainability in hospitals but with distinct focus areas. The patient survey centered on patients' values and preferences related to sustainability (e.g., plant-based meal options, outdoor greenspaces, natural lighting), while the healthcare worker survey focused on practitioners' assessments of sustainability activities and challenges at their own hospital.

Results

Climate-smart healthcare solutions not only offer environmental benefits and potential cost savings, but they may also give hospitals a competitive advantage based on patient preferences. Feedback from recently discharged patients (n = 492) revealed strong support for various sustainability efforts at hospitals, including energy conservation, waste reduction and recycling, public transport to hospitals, and providing greenspaces around hospital facilities. In addition, 3 out of 4 patients believe that hospitals should prepare for adverse climate impacts. Yet most hospitals do not prioritize environmental concerns. 75% of the surveyed healthcare workers (n = 483) ranked their hospital's current sustainability efforts as lacking or limited in scope, and two-thirds had never even heard of sustainable healthcare before, revealing the vast untapped opportunities in this area. Lack of funding, awareness, time, and leadership support were listed as some of the major barriers to achieving greater sustainability in U.S. hospitals, which also leaves a critical gap in climate change preparedness among healthcare workers. Despite viewing the growing climate crisis as a moderate to high health threat to Americans, health providers do not receive adequate training on these health hazards. Only 7% of healthcare workers rated themselves as "very knowledgeable" about climate-related health risks, leaving much room for educational improvement.

Conclusion

This research offers timely insights into the viewpoints of patients and healthcare professionals on climate-smart healthcare in the U.S. Two key findings from this project include patients' strong support for sustainability efforts at hospitals, as well as the numerous barriers that healthcare workers encounter in achieving greater sustainability. Both of these insights could influence future decision-making in hospitals across the country, potentially leading to greater uptake of sustainability activities in the health sector. However, the current political context in the U.S. presents additional barriers that may impede progress on crucial climate action. To circumvent this, health organizations could fold their sustainability goals into existing priorities since the advantages of sustainable healthcare reach beyond just environmental benefits. For example, many sustainability activities simultaneously benefit the health of patients (e.g., providing green spaces for mental wellbeing, offering plant-based meals, switching to less harmful anesthetic gases), and/or reduce operational costs (e.g., expanding telehealth appointments, optimizing supply chains, minimizing waste, improving efficiency). Highlighting these co-benefits may provide a pathway forward in a contentious political climate. Hence, this research illuminates the wealth of opportunities for improving care provision in a way that is concurrently patient-centered and Earth-friendly.

Conflicts of interest related to this abstract: None

TRACK 3: ENVIRONMENTALLY SUSTAINABLE, RESILIENT, AND LOW-CARBON HEALTHCARE: RETHINKING RESOURCES: ADVANCING THE SUSTAINABILITY FRONTIER IN HEALTHCARE

L-3019

"Bettery": Toward a revalorization of medical equipment batteries – insights from a pilot project as a guide for future initiatives

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Introduction

Rechargeable batteries are widely used in hospital environments, serving dual purposes: they enable flexible use of portable medical devices and act as backup power supplies for life-support systems. However, battery production heavily depends on the import of critical raw materials, such as cobalt, lithium, nickel, and manganese, which entail significant social and environmental impacts. Recycling batteries allows valuable materials to be recovered and reused, reducing environmental impact and the need for raw material imports, thereby fostering a more stable and self-reliant supply chain. Within the circular economy (CE) 9R-framework, however, recycling is considered the second least favourable strategy – after incineration – for high-value reuse of materials and products. In Flanders, research on waste streams from medical equipment batteries mainly focussed on single-use batteries, designed for disposal after the first use. In contrast, rechargeable batteries present opportunities for higher-value reuse after their initial end-of-life (EOL).

Aim/Objective(s)

This study is part of a broader collaborative initiative involving five Flemish hospitals, two work integration social enterprises, and three circular startups. The primary objective of this partnership is to establish a socially circular value chain aimed at extending the lifespan of rechargeable batteries from medical devices. Currently, there is no established solution in Flanders for disassembling medical devices and repurposing their batteries. The necessary processes – collecting, testing, disassembly, sorting, and production – may offer significant employment opportunities within the social economy. By a variety of research methodologies, Odisee University of Applied Sciences has generated reliable and valuable insights, serving as a foundation for further project development. The study systematically mapped current waste streams of rechargeable batteries within hospital environments, analysed existing end-of-life (EOL) strategies, and identified the most promising opportunities to enhance circularity and maximize the value retention of these batteries beyond their initial application.

Methods

This study utilized a mixed-methods approach. An exploratory survey was conducted among biomedical engineering departments in 21 Flemish hospitals, selected via convenience sampling, to explore how they manage repairs and replacements. Results were analysed in MS Excel. A focus group with four hospital sustainability managers and two biomedical engineering heads assessed equipment management, maintenance protocols, asset management systems, and battery specifications to evaluate reuse potential. An inventory of medical equipment was compiled for ten product groups as determined by the hospitals, supplemented by desk research to obtain missing specifications. Data from three hospitals were included in the analysis (MS Excel) to identify batteries with the highest reuse potential. Additionally, semi-structured interviews were

conducted with two medical equipment suppliers and one expert from Bebat, Belgium's battery collection, sorting, and recycling organization, to identify end-of-life strategies and opportunities to extend battery life cycles. These were transcribed and deductively coded using NVivo (v14).

Results

The inventory analysis provides initial insights into the energy potential of rechargeable batteries in medical environments. Nickel-Metal Hydride (NiMH) batteries constituted the largest share (43%), followed by lithium-ion (Li-ion) (30%) and lead-acid (27%). However, battery chemistry alone does not determine potential; additional parameters such as capacity (Ah), voltage (V), and thus total energy capacity (Wh) were analysed. Patient monitoring devices with lithium-ion batteries demonstrated the highest potential, with a total energy capacity of 75.28 kWh across 1,781 units. Considering the three hospitals represent 10.96% of licensed hospital beds in Flanders (30,044), the total energy capacity of patient monitoring devices across all hospitals in the region is estimated at 686.9 kWh. This study assessed the original capacity of rechargeable batteries without assessing their remaining capacity at the end-of-life (EOL) stage. Nevertheless, insights from semi-structured interviews with medical equipment suppliers and Bebat suggest that batteries returned through suppliers may still retain considerable energy capacity. Since EOL strategies depend on product responsibility and maintenance obligations. Critical devices, such as monitoring devices, are managed by suppliers who conduct preventive battery replacements, even if batteries remain functional. Therefore, collaboration with suppliers is essential to maximize the reuse potential of batteries and explore sustainable second-life applications.

Conclusion

This study highlights the potential for enhancing circularity in rechargeable medical batteries, yet the findings suggest limited opportunities within the sector. While monitoring devices using lithium-ion batteries exhibited the highest total energy capacity (75.28 kWh across 1,781 units), the extrapolated total energy capacity across all Flemish hospitals (686.9 kWh) remains modest when compared to other sectors. For perspective, a single Nissan Leaf electric vehicle battery has a capacity of approximately 40 kWh, meaning the total energy potential of all monitoring device batteries in Flanders is equivalent to just 17 electric car batteries. Given that hospitals prioritize uninterrupted patient care, preventive battery replacements often occur before full energy depletion, creating opportunities for second-life applications. However, without a structured reuse system, scalability remains a challenge. Given the pilot nature of this research, the insights serve as an initial framework for further investigation. Future studies should validate these strategies through longitudinal assessments and industry collaborations, ensuring scalability and practical implementation within healthcare ecosystems. Establishing structured reuse pathways will be essential to realizing a socially circular value chain for medical batteries, thereby contributing to a more resilient and low-carbon healthcare sector.

Conflicts of interest related to this abstract: None

L-3020

Ecological transition at Geneva University Hospitals (HUG) – The case for the “made in HUG” eco-units certification

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Introduction

The healthcare sector is responsible for approximately 7% of CO₂ emissions in Switzerland. In 2022, the Geneva healthcare system carbon footprint was estimated at 436,831 tons of CO₂-equivalent. Despite the quality of the Swiss healthcare system, it is responsible for high energy consumption and CO₂ emissions. In 2022 the HUG thus launched the ETH project aimed at integrating sustainable practices into their medical and healthcare activities. To achieve this, the ETH governance was set up with 4 strategic areas: (1) Ecoresponsible medical practices, (2) Me, a healthcare professional, (3) Reducing medical waste, and (4) Sustainability research in healthcare. These areas include diverse objectives intended to reduce the carbon footprint in healthcare, while maintaining the highest level of quality, optimizing resource use and respecting the principles of sustainable development. To reach these objectives, a “Made in HUG” certification project was launched to implement more eco-responsible healthcare practices within the HUG.

Aim/Objective(s)

The “Made in HUG” labeling project was set up, inspired by the Bordeaux University Hospital (France), with the aim of labeling 100% of the HUG medical care units as “eco-units” by 2030. This project, designed by medical and nursing professionals, and supported by top management of the HUG and its departments, encourages the transformation of care practices by promoting autonomy and reinforcing the commitment of caregivers. To label the units as “eco-care” units, 38 technical sheets were developed in collaboration with HUG entities such as Smarter Medicine, Sustainable IT and Energy Savings. These sheets propose concrete modifications to make healthcare practices more eco-responsible, while detailing their environmental, social and economic impacts. Nursing and medical managers choose to apply the recommendations from a catalogue of technical sheets in their units. This approach assists a change in healthcare professionals' culture, enabling them to adopt eco-responsible practices from the bottom-up.

Methods

Healthcare and medical managers, validated by the hierarchy, apply for labeling their unit. Then a structuring session brings together the managers and the ETH referents of the concerned department, to define an action plan, including the selection of technical sheets to be applied, the estimated time for implementation and the responsible staff. Implementation in the unit ensues. To be labeled as “eco-unit”, an auditor (an ETH referent from another department) uses a labeling grid to certify that practices were modified. A few months after certification, the unit receives an automated email to confirm that implemented practices are maintained. If not, an action plan is drawn up to rectify this. Once a year, unit labeling by department is documented. Three grants are awarded to the three departments with the highest number of labeled care units. These grants support projects contributing to ETH and are offered by the Fondation Privée des HUG.

Results

Since the launch of the ETH project in 2022, 51 ETH referents from various departments of the HUG are currently involved

and 22 units have taken the first step to request labeling. By November 2025, we will get the number of new collaborators involved in the project, units involved in the labeling process, as well as already labeled units. By the end of 2025, we will also get the results of the laureates most involved in the labeling strategy. Moreover, to ensure that the ETH approach is not essentially carried out on an operational level by medical and nursing teams, it is necessary to train the HUG top management. This will structure and reinforce the approach at institutional level. For this purpose, three complementary training tools proposed by the Geneva Sustainability Center will be deployed, including the Carbon Emission Learning Lab, by June 2025. Sustainability Accelerator Tool (a diagnostic and strategic support tool) and Plan Health Fair (an educational game) are two other tools to be introduced in the near future. Training for top management stimulates a culture change in favor of sustainability at institutional level, further stimulating the involvement of the medical professions.

Conclusion

The “Made in HUG” labeling project enables the integration of eco-responsible practices into healthcare through the reduction of energy consumption and CO₂ emissions, aiming for a net zero objective. As part of the HUG ETH project, it educates and raises awareness of healthcare professionals on the topic of eco-responsibility and sustainability of care. As a result, they become proactive agents in driving cultural change in how healthcare is prescribed and delivered. Additionally, including the HUG top management and training them on the issue of ecological transition in healthcare strengthens the approach at the institutional level. Evolution of practices continues to ensure the quality and safety of healthcare that the HUG is committed to providing, while adding the dimension of sustainability. The transition to more sustainable care in which the HUG is committed is an essential aspect in achieving the institution's net-zero objective. This “eco-unit” certification project is therefore a crucial step towards sustainable healthcare.

Conflicts of interest related to this abstract: None

L-3021

Sustainable Water Use by Hospitals: Conducting Water Stress Surveys to guide conservation and regenerative actions

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Introduction

Water scarcity is a major issue in India. As per the World Bank.

Aim/Objective(s)

Water scarcity is a major issue in India. As per the World Bank, the country has 18 percent of the world's population, but only 4 percent of its water resources, making it among the most water-stressed in the world. A large number of Indians face high to extreme water stress, according to a recent report by the government's policy think tank, the NITI Aayog. This stress is not limited to individuals and communities but also to the operational sustainability of hospitals and health care facilities. As the sector expands, hospitals will operate on water stressed districts, thereby necessitating adequate preparedness and response to this issue in order to ensure uninterrupted services to patients. The aim of the present study was to devise a mechanism to evaluate the status of the Group's hospitals in water stressed districts of India and as a sequel plan appropriate responses.

Methods

As per the definition of the European Environment Agency, water stress is defined as: ‘Water stress occurs when the demand

for water exceeds the available amount during a certain period or when poor quality restricts its use. Water stress causes deterioration of freshwater resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).' In India over 256 districts out of 700 are water stressed, while an equal number are near risk to becoming water stressed in the future. For the study methodology, water stress data from the World Resources Institute's (WRI) Aqueduct database was used along with pin-code and geo-location of our 41 hospitals to arrive at the findings.

Results

The study survey was conducted for 41 of our largest facilities across India. The intent was to better understand the location of our hospitals in relation to the region's water stress levels. Water stress data from the World Resources Institute's (WRI) Aqueduct database was used along with pin-code and geo-location of our 41 hospitals to arrive at the findings. Based on this a Water Stress key was developed which categorised the scarcity of water as: Extremely High, High, Medium-High, Low to Medium and Low. Water consumption data that is captured on a monthly basis by the Sustainability Team was disaggregated into three categories: water withdrawal from ground water, surface water or third party (through tankers). This data set was evaluated an out of 41 hospitals studied, 27 hospitals were in the Extremely High category, 4 in High, 5 in Medium-High, 2 in Low-Medium and 3 in the Low category.

Conclusion

The survey led to significant findings that were hitherto unevaluated by relevant hospital leaders. 65% of the facilities were found to be in water stressed districts of India. While nearly 10% were in the high risk category thereby highlighting the gravity of the situation and the need for adequate response mechanisms. This survey is intended to empower the hospital leadership to better understand the water availability constraints that their district/region is facing.

This further helps in aligning hospital operations with this reality and better prepare for water stress in the future. It is suggested that this survey be:

1. Shared widely with hospital leadership, HoDs and key internal stakeholders
2. Become part of the operating framework for the hospital leadership to identify, reduce and mitigate the risk of water shortages and water stress
3. Identify programs and initiatives to reduce water consumption and create targeted approach to water reuse and recycling
4. Create strategic water security plans in case of supply constraints and explore methods to reduce ground water use
5. Adopt best practices in water use, reuse and recycling
6. Help create staff awareness on this critical resource constraint

Conflicts of interest related to this abstract: None

L-3022

The Importance of Intersection of Patient Safety, Resilience and Environmental Sustainability to Address Today's Health System's Needs

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The impacts of climate change highlight the critical intersection of patient safety, resilience, and environmental sustainability. Addressing these challenges requires action from hospital boards to front-line staff, recognizing how their decisions can enhance resilience, reduce environmental impact, and improve

outcomes. In response, HSO and the Canadian Coalition for Green Health Care (CCGHC) are launching an updated environmental benchmarking tool, based on the Green Hospital Scorecard – Canada's leading tool for over a decade. Integrated into HSO's offerings, it helps identify practical changes and track progress. Hospitals across Canada are piloting the tool to assess their climate practices, compare with peers, generate actionable insights, and provide feedback to refine the tool. A report on pilot findings will be shared in the context of today's global environmental challenges.

L-3023

Unlocking hidden value: How hospitals can turn excess resources into societal gains and new business opportunities.

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Introduction

OUS is redefining the role of hospitals within urban ecosystems by adopting sharing economy principles. Rather than functioning as a mere consumer of resources, OUS strives to become an active contributor to its surrounding community. Instead of letting unused capacity go to waste, OUS turns it into an asset that supports green energy transition, enhances climate resilience, and reduces costs. This results in more efficient use of the hospital's resources, a reduction of emissions, and an overall decrease in resource consumption in the region. This progressive approach reduces environmental impact, while generating new value streams for both the hospital and potential market players. Central to this transformation is OUS's sustainability strategy, which plays a pivotal role in translating this vision into practice. By defining clear objectives for energy efficiency, resource optimization and circular solutions, the strategy ensures that the mindset moves beyond theory and into action.

Aim/Objective(s)

Hospitals require substantial resources, including energy, raw materials, building materials and space. Traditionally, hospitals have been designed to only consume these resources, however, through several sharing economy initiatives OUS aims to demonstrate that the hospital can also be a supplier of surplus resources. We understand the negative impact that the new buildings have on climate, nature and surrounding communities and want to contribute our share to a net-zero society. These initiatives distance from a one-way consumer mindset and towards solutions that can benefit society while delivering financial benefits. By sharing resources, we foster business interactions and collaborations that drive green investments. OUS can catalyze large-scale sustainability initiatives in the local community and define a new standard for sustainable healthcare facilities.

Methods

In developing the new hospitals, OUS is innovating to reduce, reuse and share resources through several initiatives. Central to the approach is mobilizing the market and collaborating with private actors, exploring new business models, unlocking new revenue streams, and solving local and regional problems. Examples of initiatives:

1. An energy efficient and integrated district heating and cooling system that shares the hospital's excess energy and capacity with the Oslo Science City community.
2. Use the hospital's emergency power system to increase capacity and secure the regional power supply in Oslo in response to expected grid overloads due to increased electrification.

3. Making the hospital's roofs and other surfaces available for public benefit initiatives (solar panels, bio-farming, rainwater absorption, etc.).
4. Transforming challenges with snow handling (removal, transportation and disposal) to a cooling resource for the local community during peak summer days, by storage solutions integrated with the district cooling system.

Results

OUS is aiming to bring forth a new mindset, where the hospital uses existing assets to create societal, environmental, and economic value. By tapping into unused resources and sharing them across society, OUS can drive benefits such as reduced emissions, a higher share of renewable energy, enhanced climate resilience, decreased pressure in the grid, and new financial opportunities. Estimates indicate that through circular and sharing solutions, OUS could generate an additional € 8-10 million annually, along with other valuable benefits:

1. A district heating/cooling system has the potential to export surplus energy, earnings up to € 5 million annually.
2. The back-up power system secures supply while creating an additional revenue stream of around € 3 million annually.
3. A more effective use of non-occupied facade and roof top space represents a potential of 15 GWh annually at OUS, if solar panels are installed.
4. Collecting and storing snow can reduce costs and energy to cool down facilities during summer. This reduces energy consumption and emissions.

By rethinking hospital design and operations, OUS and surrounding actors can reduce their reliance on virgin resources.

Conclusion

OUS is pioneering a transformative approach to resource use by integrating sharing economy principles into its operations. This strategy not only enhances the hospital's facility sustainability performance, but also fosters a symbiotic relationship with the surrounding community. By implementing the initiatives discussed, OUS is setting a new standard for resource management in the healthcare sector. These initiatives demonstrate that hospitals can transcend their traditional role as entirely resource consumers to become active contributors to the community's resource pool. The financial benefits, estimated to increase by 8-10 million euros annually, underscore the economic viability of these sustainable practices. In addition, there are significant environmental and social benefits that extend beyond the hospital. These results cannot be achieved by OUS alone. This initiative creates business opportunities throughout society, inviting diverse stakeholders to participate in the investment and contribute to the broader impact.

We hope to be able to present these at the 48th IHF World Hospital Congress to challenge traditional ways of thinking about resource use and inspire other healthcare actors.

Conflicts of interest related to this abstract: None

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: MANAGING AI-POWERED HEALTHCARE: INFRASTRUCTURE, WORKFORCE, AND INNOVATION

L-4001

Building an AI-Ready Healthcare Ecosystem: Singapore General Hospital's Systematic Approach to Digital Transformation

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Introduction

Singapore faces critical healthcare challenges: an ageing population with projections showing one in four citizens will be 65 and above by 2030, escalating chronic disease burden with concerning rates of hypertension and hyperlipidaemia affecting 32% and 37% of the population respectively, and rising healthcare costs that outpace general living expenses. As Singapore's flagship hospital, SGH is transforming healthcare delivery to address these megatrends while pursuing its vision of "Best Outcome, Best Experience." Our digital transformation strategy, particularly in artificial intelligence (AI) integration, aims to create a nimble, future-ready healthcare ecosystem that emphasizes preventive health, personalized care, and community-based services. Since 2019, SGH has established dedicated AI offices and implemented numerous innovative solutions, from predictive analytics to automated clinical documentation, supporting our mission to deliver excellent patient

care while managing healthcare costs and workforce constraints effectively.

Aim/Objective(s)

SGH's AI transformation initiative aims to build a future-ready hospital that leverages AI to enhance healthcare delivery while addressing critical workforce and sustainability challenges.

Key objectives:

1. To establish a comprehensive AI ecosystem through dedicated offices that drive research, development, and implementation of AI solutions across clinical and operational domains.
2. To improve patient outcomes and experience through AI-augmented clinical decision support, predictive analytics, and automated processes, enabling more precise and personalized care delivery.
3. To enhance operational efficiency and workforce productivity by automating routine tasks, reducing administrative burden, and enabling data-driven decision-making.
4. To build a future-ready workforce equipped with AI competencies through structured training programs and change management initiatives.
5. To develop and implement a robust AI governance framework ensuring responsible and ethical AI deployment in healthcare settings.

These objectives align with SGH's commitment of delivering the "Best Outcome, Best Experience" while supporting Singapore's broader healthcare transformation goals.

Methods

SGH employed a comprehensive methodology across five key domains:

- 1) Strategic Infrastructure:

- Established specialized innovation and AI offices with dedicated data scientists, clinician-innovators and project managers
 - Leveraged secured sandbox environments, healthcare commercial cloud, deployment platforms and data warehouse capabilities
 - Utilized air-gapped supercomputing and GPU resources for AI development
- 2) Research & Development:
- Systematic framework from ideation to implementation
 - Structured processes for innovation funding and collaborator sourcing
 - Proof-of-concept, prototype development and pilot studies for validation
- 3) Governance:
- Adherence to Cluster AI and data governance policies aligned with national frameworks
 - Established management forums for AI project approval and oversight
 - Established offices to ensure regulatory compliance and ethical oversight
- 4) Implementation:
- Structured change management and job/process redesign to complement AI implementation
 - Continuous monitoring and feedback mechanisms
- 5) Commercialization:
- Established offices to support quality management accreditations and regulatory approvals
 - Established licensing and start-up pathways

Results

SGH's AI transformation initiatives have yielded significant measurable outcomes across multiple aspects:

- 1) Clinical Impact and Operational Efficiency:
- Successfully deployed 7 enterprise-wide AI solutions, including antibiotic recommendation, surgical risk prediction, chatbot, AI mammogram interpretation, breast fibroepithelial tumors identification, AI Drug Mix and Dose Advisor for individualized type 2 diabetes management, and predictive model for emergency department patient load
 - Ongoing development of novel solutions like BiliSG app for remote jaundice monitoring and Pensieve AI app for dementia screening
 - Implemented Generative AI tools such as Note Buddy for real-time ambient clinical documentation, and Pair Chat for protocol query
- 2) Innovation Culture Amongst Staff
- 78 AI projects was explored (documented since 2019) across the institution to address various healthcare challenges
 - Published 134 AI-related research papers (2021-2024), contributing to evidence-based healthcare
 - 48 Gen AI chatbots built by staff through an in-house Gen AI Hackathon event
- 3) Workforce Development:
- Established Innovation Skills and Competencies Framework
 - Developed and adopted change management and job redesign frameworks to complement and facilitate AI adoption

These results directly address Singapore's healthcare challenges by improving efficiency, reducing costs, and enhancing care quality while managing workforce constraints. The solutions demonstrate scalable models for healthcare innovation that can be adopted across the sector.

Conclusion

SGH's comprehensive AI transformation demonstrates how technology can effectively address key healthcare challenges facing Singapore. The successful implementation of AI solutions has created a blueprint for healthcare innovation that balances clinical excellence with operational efficiency. The initiative's impact extends beyond immediate operational improvements to contribute to broader healthcare transformation:

1) Policy Impact:

- Established frameworks for AI governance and responsible AI adoption in healthcare
- Demonstrated effective public-private partnership approaches

2) Practice Transformation:

- Shifted towards predictive and preventive care models
- Enhanced patient engagement through digital solutions
- Improved workforce productivity through democratized Generative AI tools

3) Research Advancement:

- Generated evidence for AI effectiveness in clinical settings
- Developed healthcare-specific AI applications
- Created platforms for continuous innovation

Looking ahead, these achievements position SGH to address future healthcare challenges, particularly in managing an aging population and rising healthcare costs. The hospital's experience provides valuable insights for other healthcare institutions embarking on similar digital transformation journeys. The success of this initiative underscores the importance of a systematic, comprehensive approach to healthcare innovation, combining technological advancement with workforce development, robust partnership network and strong governance frameworks.

Conflicts of interest related to this abstract: None

L-4002

Building Digital Competency: Training Needs Assessment for AI, Cybersecurity, and Data Analytics in Saudi Healthcare

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Introduction

The rapid digital transformation in healthcare, including electronic health records, telehealth, artificial intelligence (AI), and data analytics, is reshaping clinical practice. Saudi Arabia's Vision 2030 emphasizes modernizing healthcare through digital technologies. However, healthcare professionals (HCPs) require specialized training to effectively implement and manage these innovations. Cybersecurity threats, AI integration challenges, and data governance issues highlight the need for structured competency development. To address this, a Training Needs Assessment (TNA) was conducted to evaluate HCPs' digital health skills and inform a Digital Health Proficiency Program tailored to Saudi Arabia's healthcare sector.

Aim/Objective(s)

This study aims to assess healthcare professionals' training needs in cybersecurity, AI, and data analytics within Saudi healthcare settings. It identifies knowledge gaps, challenges, and opportunities to develop targeted training programs that enhance digital literacy, improve patient care, and ensure secure data management. Specifically, the study will evaluate

HCPs' understanding of data protection regulations and cybersecurity practices, measure their familiarity with AI applications in healthcare, including ethical and regulatory aspects, and assess their ability to apply data analytics to improve patient outcomes. The findings will inform structured training initiatives designed to be implemented within a defined timeframe, ensuring measurable improvements in HCPs' competencies and aligning with Saudi healthcare priorities.

Methods

This cross-sectional study used a self-administered online survey to assess the knowledge and training needs of healthcare professionals (HCPs) in Saudi Arabia. The survey targeted all HCPs holding a valid SCFHS registration, including doctors, nurses, allied health professionals, healthcare administrators, and support staff across diverse healthcare roles. The questionnaire evaluated the extent of respondents' previous training in AI, cybersecurity, and data analytics, along with their confidence and perceptions in these areas. Descriptive statistical analysis was conducted to identify knowledge gaps and prioritize training needs across various healthcare sectors.

Results

A total of 3,076 healthcare professionals participated in the survey, highlighting training gaps in AI, Cybersecurity, and Data Analytics. In AI, 70% had no prior training, and 12.5% lacked confidence in understanding its applications. Key challenges included ethical concerns (53%), limited training (58%), and data privacy issues (52%). In Cybersecurity, 73% lacked formal training, with human errors (64%) and insufficient training programs (60%) being major concerns. Despite this, fraud detection (64%) and electronic health record protection (62%) were recognized as critical benefits. In Data Analytics, 58% lacked training, despite acknowledging its potential to improve patient care and operational efficiency. The main concerns were data privacy (69%) and lack of governance (56%), underscoring the need for structured educational programs. To address these gaps, the recommended training approach includes comprehensive AI, Cybersecurity, and Data Analytics courses, focusing on practical applications, ethical considerations, regulatory compliance, and hands-on skills development. Additionally, yearly compliance training, certification programs, and advanced-level courses should be implemented to ensure continuous learning and adaptation to the evolving digital healthcare landscape.

Conclusion

This study identifies key gaps in digital health skills among healthcare professionals in Saudi Arabia, particularly in artificial intelligence, cybersecurity, and data analytics. Addressing these gaps through structured e-learning programs can enhance patient care, safety, and operational efficiency. Training should focus on practical applications, ethical considerations, and regulatory compliance to ensure professionals can effectively use digital tools. Improving digital health proficiency will strengthen decision-making, protect sensitive data, and streamline healthcare services. Annual compliance training can keep professionals updated on emerging technologies and best practices. From a policy perspective, this research supports the need for standardized training frameworks aligned with national digital health strategies. In practice, it encourages the adoption of AI-driven solutions and stronger cybersecurity measures. Future research should assess the long-term impact of training programs and explore innovative learning methods for continuous skill development.

Conflicts of interest related to this abstract: None

L-4003

Clinical practice guidelines adherence – Automatized measurement: Clinical impact and Operational efficiency

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Introduction

Understanding Clinical Practice Guidelines (CPGs) as tools to reduce variability in clinical practice. Measuring adherence to CPGs in healthcare institutions is essential to ensure quality medical care with appropriate use of resources, based on the best available evidence. The manual process for measuring adherence to CPGs, used until 2024 at Clínica Colsanitas S.A. at the national level, revealed the limitations and challenges inherent to the manual performance of an activity of this magnitude, such as the limited number of evaluable indicators, biases in the correct identification of patients eligible for evaluation through the use of ICD-10 codes, the high volume of medical records that must be reviewed, the late availability of results, and potential subjectivity during the evaluation. From all of the above arises the evident need to optimize the process of measuring adherence to CPGs at Clínica Colsanitas S.A. at the national level, with clinical impact and operational efficiency.

Aim/Objective(s)

1. General objective: To automate the measurement of adherence to Clinical Practice Guidelines at Clínica Colsanitas S.A.
- 1.1. First specific objective: To automate the measurement of adherence to the Sepsis and Septic Shock CPG at Clínica Colsanitas S.A.
- 1.1.1. Specific objectives: To automate the measurement of compliance to the four tracer recommendations proposed as indicators for assessing adherence to the Sepsis and Septic Shock CPG at Clínica Colsanitas S.A.:
 - I) Collection of cultures within the first hour of diagnosis
 - II) Initiation of antimicrobial treatment within the first hour of diagnosis
 - III) Goal-guided patient management
 - IV) Lactate measurement within the first three hours of diagnosis

Methods

Methodology: Cross-Industry Standard Process for Data Mining (CRIPS-MED-DM) adapted to the health sector:

1. Development of the protocol based on the steps performed during the manual assessment of adherence.
2. Identification of key indicators from medical records of patients with sepsis or septic shock.
3. Integration of information sources from the Sophia platform. Data cleaning based on protocol exclusions. Standardization of texts, punctuation, accentuation and special characters. Standardization of clinical terminology.
4. Implementation of algorithms for automatic pattern recognition in clinical notes. Implementation of the Gemini Large Language Model (LLM) for the identification of diagnoses. Validation of the temporal windows described in the protocol.
5. Evaluation of the level of agreement between the results obtained with the automated versus manual measurement in a sample of clinical records.
6. Implementation of automated tools in Google Cloud Platform (GCP) for continuous evaluation of clinical indicators. Calculation of indicators on a monthly basis.

Results

Dashboard with results visualization in Looker Studio:

- CPG adherence result: Overall and for each of the indicators. By clinic, admission type (emergency, general hospitalization), year, and month. By each indicator display by medical record included in the measurement, with the supporting information for adherence assessment.

Automation of CPG adherence measurement at Clínica Colsanitas S.A., launched in November 2024 through the first development: the automation of Sepsis and Septic Shock CPG adherence measurement, resolved key limitations of manual assessment, made it possible to: assess adherence to multiple indicators, analyze representative samples of medical records, and obtain results from the immediately preceding month with greater precision and objectivity. Knowing the results of adherence to the four recommendations defined and proposed as indicators, increasing the sample size by not relying exclusively on ICD-10 codes to identify medical records, knowing the adherence results of the immediately preceding month and a 100% objective adherence evaluation are improvements to the process that make it possible:

- More accurate and generalizable results
- Strengthened root-cause analyses and robust improvement plans definition
- Timelier decision-making and evaluation of the impact and sustainability of the strengthening adherence strategies.
- Increasing healthcare staff confidence in the results obtained, fostering commitment to CPG adherence.

Conclusion

The incorporation of transformative technologies in hospital operations is undoubtedly one of the most important aspects in the search for operational efficiency and improved clinical outcomes. The conclusive results of the first development of this project, the automation of the measurement of adherence to GPC of Sepsis and Septic Shock, with the use of tools such as: Python programming language; Pandas libraries, scikit-learn, NLTK for natural language processing (NLP), LLM Gemini; Google Cloud Platform Infrastructure (BigQuery, Cloud Storage, VM Instances) and Docker, confirm the enormous opportunity for growth in the health area with the implementation of analytical solutions and the value of articulated interdisciplinary work to strengthen and ensure compliance with quality standards in health care. A good example is the automation of the measurement of adherence to CPGs at Clínica Colsanitas S.A. at the national level, a project that is currently in the final stages of the following two developments: Heart Failure and Complicated Urinary Tract Infection.

Conflicts of interest related to this abstract: None

L-4004

Digital Transformation for Issuing the Medical Examination Form for Police Reports in Dibba Hospital Emergency Department

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Introduction

The integration of digital solutions in healthcare is crucial for improving efficiency and service delivery. One key innovation is the digital transformation of the medical examination form for police reports, creating a smart service that leverages technology to simplify and expedite the process. This initiative addresses challenges like lengthy manual procedures, data inaccuracies, and delays. In collaboration with the Dibba Al-Fujairah Police Department, an electronic platform has been developed, allowing emergency doctors to directly access and complete medical reports instantly, eliminating the need for complex paperwork. This transformation ensures timely medical reports for

police investigations. The hospital, equipped with modern technology, benefits from reduced administrative workload and enhanced communication with law enforcement. The initiative not only saves valuable time but also improves the quality of care by ensuring that accurate medical information is shared quickly, ultimately enhancing service delivery and benefiting the community by providing timely and efficient services.

Aim/Objective(s)

This Digital transforming the medical examination form for police reports into a smart service Key objectives include:

1. Eliminating Bureaucracy: Simplifying administrative procedures, reducing paperwork, and cutting down the process steps from 6 to 2.
2. Enhancing Operational Efficiency: Automating processes to minimize errors, improve data flow, and reduce time to issue medical reports.
3. Empowering Medical Staff: Allowing emergency doctors direct access to the system for entering data and issuing reports.
4. Enhancing Transparency and Accuracy: Ensuring data accuracy through a unified electronic system.
5. Supporting Digital Transformation: Strengthening digital infrastructure and positioning the country as a leader in digital services.
6. Environmental Sustainability: Reducing paper use and contributing to sustainability.
7. Achieving Integration: Enhancing collaboration between police and hospitals.
8. Saving Time and Resources: Reducing procedure times and saving resources through automation.
9. Enhancing Security and Privacy: Ensuring data protection and user access control.

Methods

The digital transformation project for issuing medical examination forms for police reports involved several key steps:

1. Planning and Design: Analyzing requirements, designing user-friendly interfaces, and improving current processes digitally.
2. System Development: Using modern technologies to integrate the medical examination form into the Fujairah Police website, granting access to emergency department doctors at Dibba Hospital.
3. Training and Awareness: Training staff on system usage and organizing awareness workshops.
4. System Testing: Conducting performance and security tests to ensure efficiency and data protection.
5. Implementation: Gradually launching the system, starting with Dibba Hospital and Police, and providing continuous technical support.
6. Evaluation and Improvement: Collecting feedback from users, analyzing data to assess success in reducing processing times and improving report accuracy.
7. Expansion and Enhancement: Expanding the system to other areas and regularly updating it to incorporate new technologies, ensuring continued efficiency.

Results

The digital transformation of the medical examination form for police reports resulted in:

1. Reduction in Procedures: The number of procedures required to complete the process has been reduced from 5 to just 1. This represents a 33.3% decrease in the total number of procedures, leading to a substantial reduction in the overall workload. The total annual reduction in procedures amounts to 49,950 procedures.
2. Reduction in Steps: The number of steps involved in the process has been reduced by 67%, which results in a

- smoother and faster workflow. This reduction leads to an annual saving of 24 steps, allowing for quicker processing.
3. Reduction in Attachments, Documents, and Requirements: The need for attachments, documents, other requirements has been reduced by 99%, which means that most of the required information is now integrated into the electronic system. This reduction leads to a total of 198 fewer attachments and documents being required annually, simplifying the overall process and reducing paper usage.
 4. Reduction in Completion Time: The time required to complete the entire process been reduced by 81%. This significant reduction allows for faster response times and quicker processing, ensuring that medical reports are available to police departments without unnecessary delays.

Conclusion

This innovation stands out from traditional solutions in several key aspects that distinguish the digital system implemented at Dibba Hospital from the conventional methods of managing medical examination forms for police reports:

1. Complete Digital Transformation and Integration Between Entities: The system is an integrated digital solution that connects Dibba Police Department with the hospital, allowing doctors to directly enter medical reports into the system without the need for traditional paperwork or inter-departmental transfers.
2. Reduction in Procedures and Documentation: In traditional systems, multiple documents needed to be submitted and signed by different parties, complicating and delaying the process. This innovation reduces the need for documents by 99%, with all data being electronically stored and updated instantly, significantly reducing administrative burdens making information easily accessible.
3. Faster and More Efficient Response: The new system automates the process, reducing the time needed to complete tasks. Previously, reports were handled manually, which could take a long time to reach the police. Now, emergency doctors can quickly directly access medical reports, leading to faster responses in emergency situations.

Dibba Hospital is currently the first and only hospital implementing this electronic system for police medical examination forms, making it a pioneer in this area.

Conflicts of interest related to this abstract: None

L-4005

Integrating Artificial Intelligence: An Architectural and Technical Diagnostic Study Towards Future-Ready Healthcare

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Introduction

Artificial intelligence (AI) is transforming healthcare infrastructure by enhancing facility evaluation and optimization. This study examines Les Champs psychogeriatric hospital – Belle-Idée – Hôpitaux Universitaires de Genève-Switzerland (HUG), where AI-driven diagnostics assessed the building's condition and future readiness. Using 360-degree imaging, AI detected structural defects, classified issues, and estimated renovation costs. This data-driven approach improves facility management, ensuring sustainability and adaptability to evolving healthcare needs. The results demonstrate AI's potential to streamline maintenance, optimize resource allocation, and support long-term planning. By integrating AI into hospital diagnostics, this study sets a benchmark for efficient, intelligent, and future-ready healthcare infrastructure, highlighting its role in

ensuring hospitals meet the challenges of modern medical care.

Aim/Objective(s)

This study aimed to assess the existing infrastructure of Les Champs psychogeriatric hospital – Belle-Idée – Hôpitaux Universitaires de Genève-Switzerland (HUG), of approximately 8 000 m², focusing on its architectural integrity, operational efficiency, and suitability to accommodate the evolving demands of future healthcare systems. By leveraging artificial intelligence (AI), the project sought to deliver an in-depth evaluation of the facility's current state and outline a roadmap for modernization and adaptation.

Methods

A cutting-edge AI-based system was used to detect internal and external defects in the hospital's infrastructure. Using "Interior & Exterior Inspector," an off-the-shelf 360-degree camera solution, automated defect detection and localization within internal building spaces were performed. The system classified identified defects, generated detailed quality assessment reports, and provided cost estimates for necessary interventions and renovations. The analysis included both immediate structural and architectural concerns and long-term sustainability projections.

Results

The AI-driven diagnostic approach successfully identified a comprehensive range of defects across internal and external areas of the facility, enhancing the accuracy and efficiency of quality assessments. Localized reporting allowed for precise mapping of maintenance priorities, while defect classification supported targeted interventions. The cost estimation feature provided actionable insights for budgeting and planning renovations. The findings revealed critical insights into the infrastructure's expected lifespan and the financial implications of maintaining and upgrading the facility to modern standards. Notably, the AI-enabled solution demonstrated its potential to streamline operations and decision-making for facilities management teams.

Conclusion

The study underscores the transformative potential of AI in the evaluation and modernization of hospital infrastructure. By providing actionable data, it equips operators and planners with the tools to ensure that facilities remain aligned with the dynamic needs of future healthcare systems. This innovative solution not only optimized the current diagnostic process but could also highlight opportunities for future enhancements, such as integrating predictive analytics to forecast maintenance needs and lifecycle costs. As healthcare evolves, AI applications like this are poised to play a pivotal role in bridging the gap between existing infrastructure and the demands of a rapidly changing healthcare landscape. This case study offers a model for leveraging AI to ensure hospitals are equipped to meet emerging challenges, setting a benchmark for architectural and technical diagnostics in the health sector.

Conflicts of interest related to this abstract: None

L-4006**The critical role of innovation management in AI implementation: insights from the ASSIST project**

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Introduction

The integration of artificial intelligence (AI) into healthcare systems promises to revolutionize diagnosis and care delivery, particularly in the realm of cardiovascular disease. However, the successful implementation of AI-driven solutions requires comprehensive planning, stakeholder alignment, and careful management of scientific and operational complexities. The ASSIST project, which is supported by 14 international partners and is funded by EIT Health, aims to develop an AI-based solution for the early diagnosis and triage of acute myocardial infarction (AMI). This work reviews the role and relevance of innovation management and support teams in the successful identification, implementation, and execution of AI projects in healthcare.

Aim/Objective(s)

Using the ASSIST project as a case study, the objective of this communication is to review the relevance of the innovation department in facilitating institutional participation, aligning stakeholders, securing scientific leadership, and ensuring compliance with regulatory standards. This communication aims to demonstrate that without robust innovation and project management leadership, the realization of this project may not have been feasible or sustainable.

Methods

The work is set in the context of ASSIST-consortium partner Hospital Germans Trias i Pujol, a large public tertiary hospital in Barcelona (Spain) with a robust innovation management team. The ASSIST project employs a dual-phase study design, consisting of a retrospective analysis and an ongoing prospective study. The data collected are derived from previously acquired ECGs, electronic health records, medical imaging, and AI tools

for predictive modelling. The innovation department's responsibilities in the project included: 1) navigating institutional bureaucracy, 2) fostering collaboration between the cardiology department and technical teams, 3) ensuring compliance with data protection laws, and 4) overseeing the development of the project in the institution. By identifying key scientific leaders within the institution and aligning internal resources, the innovation department ensured that the project's technical and regulatory requirements were met, facilitating smooth execution across all stages.

Results

The participation of the innovation department was key to the successful integration and execution of the ASSIST project. Because of the department's strategic leadership, the Hospital Germans Trias i Pujol has not only ensured its active role in the consortium but has also been one of the few partners to meet all deadlines and comply with project milestones. This achievement reflects the innovation department's focus on maintaining project timelines and ensuring rigorous adherence to the objectives of the consortium. Furthermore, the department's emphasis on regulatory compliance has ensured that all data security measures were met, creating a secure foundation for continued progress in the project.

Conclusion

The ASSIST project underscores the critical role that building interdisciplinary teams plays in the successful identification, implementation, and execution of AI studies. While scientific and clinical expertise is undeniably essential, this work demonstrates that the inclusion of innovation management and project management teams is equally crucial to ensuring the operational feasibility and sustainability of AI-driven solutions. Unfortunately, the importance of these teams is often overlooked, and insufficient resources are allocated to their support. This oversight can hinder the successful deployment of AI technologies in healthcare. The ASSIST project highlights that without dedicated innovation and project management teams, the potential of AI-driven solutions cannot be fully realized. These interdisciplinary efforts are indispensable for overcoming the complex challenges of AI implementation, ensuring that these technologies translate into meaningful improvements in patient care and healthcare delivery.

Conflicts of interest related to this abstract: None

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: DRIVING CLINICAL CARE AND DIAGNOSTICS WITH DATA AND AI FOR EFFICIENCY AND RESILIENCE

L-4007

AI-Driven Diagnostic Stewardship in Intensive Care: Minimizing Unnecessary Testing, Maximizing Patient Benefit

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Introduction

Routine laboratory testing in critical care settings often exceeds clinical necessity, posing risks such as patient discomfort, iatrogenic anemia, false-positive results and workflow inefficiencies. The LISA project leverages a newly developed AI-based approach to analyze large historical datasets of lab measurements and identify opportunities for reducing redundant lab orders while preserving high-quality care. Initially planned for full-scale deployment as a certified medical device, regulatory requirements have prompted a phased implementation. Nonetheless, the project has progressed using advanced data analytics and artificial intelligence to inform clinical decision-making. We present how the AI approach led to optimized testing protocols in intensive care units, highlighting the medical benefits of minimizing unnecessary diagnostics and discussing subsequent improvements in patient outcomes and team collaboration.

Aim/Objective(s)

Our overarching goal was to harness AI-driven analytics to enhance patient care by streamlining laboratory diagnostics, particularly in intensive care. The specific objectives were to:

1. Implement an AI-based system capable of detecting excessive or redundant lab orders in real time.
2. Minimize patient risks associated with frequent phlebotomy, such as iatrogenic anemia and increased discomfort.
3. Promote evidence-based diagnostic stewardship by standardizing critical lab tests across ICUs.
4. Evaluate the impact on patient safety, clinical workflows, and interdisciplinary collaboration.

Although potential cost savings were anticipated, the central focus remained on improving clinical outcomes and reducing patient burden through more judicious lab test utilization.

Methods

An AI-driven method was developed by the Center for Artificial Intelligence, Medical Informatics and Data Science at Knappschaft Kliniken University Hospital Bochum to analyze historical laboratory orders from the years 2019 to 2023. We utilized machine learning models (random forest, gradient boosting and logistic regression) trained on multidimensional clinical and administrative data, identifying patterns that correlate with unnecessary or repetitive testing for specific clinical diagnoses. Site visits to selected hospitals within the Knappschaft Kliniken group provided qualitative context and verified algorithmic output. Leveraging these insights, an interdisciplinary team refined ICU test protocols, incorporating both clinical expertise and AI recommendations. The integrated approach involved real-time monitoring of ordering behaviors, ed-

ucational sessions for healthcare professionals, and the embedding of rule-based interventions in the existing lab order entry systems. Throughout, qualitative and quantitative outcomes were observed, for maintaining diagnostic accuracy and patient safety.

Results

Post-implementation findings from the intensive care units demonstrated notable decreases in lab orders per patient. Data from the AI platform revealed a 30%-plus reduction in repetitive or clinically non-essential lab requests within the surgical ICU, dropping from 134.25 tests per patient in Q4 2019 to 91.68 in Q4 2023. The conservative ICU mirrored this trend, moving from 136.95 tests in Q4 2019 to 91.88 in Q1 2024. These figures aligned with clinical observations of fewer blood draws, less patient discomfort, and a potential decline in iatrogenic anemia rates. The AI-generated "hit list" also guided interventions in other high-volume diagnostic areas, streamlining multidisciplinary coordination and prompting localized protocol updates. While cost savings were evident with a cost reduction of almost 50%, clinicians consistently cited improved patient experiences, enhanced workflow efficiency, and more targeted diagnostics as the most significant benefits. These results support the premise that an AI-driven approach can safely reduce laboratory overutilization.

Conclusion

The LISA project underscores the value of an AI-based methodology in optimizing lab diagnostics within intensive care. By combining advanced data mining, machine learning insights, and structured protocol development, we achieved measurable reductions in unnecessary tests, yielding clear benefits for patient comfort and clinical outcomes. Although regulatory constraints altered the project's original trajectory toward a fully certified medical device, the core AI functionalities have already demonstrated their potential to transform diagnostic stewardship. Patient-centric gains – such as minimized phlebotomy-related risks and enhanced interdisciplinary communication – emerged as key outcomes, with secondary economic benefits reinforcing the sustainability of the approach. Moving forward, plans involve both broader ICU adoption and adaptation of the AI solution to all other departments. This phased rollout will further validate the clinical safety and efficacy of AI-driven diagnostic optimization, setting the stage for ongoing improvements in quality of care across the hospital network.

Conflicts of interest related to this abstract: None

L-4008

ANTIBIODOSE: a mobile application to individualize empirical treatment and dosage of antimicrobial drugs in adult patients.

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Introduction

Around 50% of hospitalized patients receive treatment with at least one antimicrobial agent.

Numerous factors influence the selection and dosing of these medications, including severity,

risk of multidrug-resistant organisms, patient weight, glomerular filtration rate, allergies, among others. Considering all these

factors during antimicrobial prescription is crucial and often requires consulting a pharmacist or an infection specialist physician

Aim/Objective(s)

- Develop a mobile application integrating the hospital's empirical treatment guidelines with appropriate dosing adjusted for various clinical factors.
- Provide a useful, agile, and consensus-driven tool developed collaboratively with infectious disease specialists and accessible to healthcare professionals.
- Improve clinical outcomes and enhance antimicrobial prescribing safety.

Methods

1. Development of antimicrobial selection algorithms by a biomedical engineering intern and two pharmacists, following the hospital's empirical infection treatment guidelines.
2. Literature review and creation of a database with recommended antimicrobial dosing based on infection type, severity, patient allergies, weight, BMI, and renal function.
3. Algorithm review in collaboration with Infectious Disease specialists to include treatment options not covered in the empirical guidelines.
4. Programming the algorithms and database in Kotlin (Android) and Swift (iOS) by a software engineer.
5. Regular meetings of the project team to define application features and address concerns.
6. Validation of content and functionality by Pharmacy and Infectious Disease specialists.
7. Deployment and dissemination of the mobile application.

Results

The ANTIBIODOSE project will result in the development of a mobile application freely available for Android and iOS platforms. The application integrates empirical antimicrobial treatment guidelines from the hospital and adjusts dosing recommendations according to individual clinical factors such as infection type and severity, patient sex, weight, height, renal function, and risk for multidrug-resistant organisms. Algorithms developed collaboratively with infectious disease and pharmacy specialists ensure accurate, patient-specific antimicrobial prescribing. This mobile app also calculates body mass index (BMI), ideal body weight (Devine's formula), and adjusted body weight, enhancing clinical precision in dosage recommendations.

Conclusion

The ANTIBIODOSE mobile application significantly contributes to health service improvement by addressing critical issues related to antimicrobial prescribing accuracy and safety in hospitalized adult patients. By integrating empirical treatment guidelines and patient-specific factors, the application ensures adherence to evidence-based practices, thereby optimizing clinical outcomes and antimicrobial stewardship. Its innovative approach facilitates rapid and precise clinical decision-making, reducing variability in antimicrobial prescribing practices. Furthermore, this technology promotes policy adherence through real-time guideline integration, exemplifying best practices in healthcare innovation and serving as a potential research model for future developments in clinical decision support tools.

Conflicts of interest related to this abstract: None

L-4009

Automating Clinical KPIs through Health Information Exchange Platform

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Introduction

Healthcare Key Performance Indicators (KPIs), known in Arabic as "Jawda" (Quality), are metrics used to evaluate the performance and quality of healthcare services. Implemented in 2018, its currently submitted by healthcare providers every quarter via a designated DoH Jawda portal.

However, there are several challenges associated with the current process, include:

1. Data accuracy since it is self-submitted and manually updated data
2. Timely availability of data as the providers submitted it after 3 months from the reporting quarter
3. Manpower requirements since there are dedicated staff needed for data extraction and submission
4. Results validation of the submitted data done by third party audit
5. Limited view on patient journey as the providers only report complications/readmissions within their own facility
6. Considering patient complexity levels when scoring the healthcare providers

Aim/Objective(s)

Jawda Automation was implemented utilizing Malaffi platform (Arabic for 'my file') which is a Health Information Exchange platform connecting public and private healthcare providers and enabling meaningful, real-time exchange of important patient health information between healthcare providers, creating a centralised database of unified patient records reflecting patient journey across all facilities. Jawda automation project enable us to achieve the below objectives:

1. Enhance efficiency by automating Jawda KPIs using the Malaffi Health Information Exchange platform.
2. Timely update of dashboards for real-time monitoring.
3. Expand the view to provide holistic view across the whole emirate of Abu Dhabi.
4. Minimize manpower requirements for healthcare providers who were utilized before for data submission and validation.
5. Enable the DoH vision to establish Pay for Quality project.
6. Consider patient complexity in the scoring different healthcare providers via Case Mix Adjustment module utilizing clinical information within Malaffi for enhanced patient-level insights.

Methods

The Jawda automation process spanned several months, beginning with project inception and scope definition, followed by KPI automation logic creation based on the original Jawda published profiles. This process was challenging, as adjustments were needed to align with the available information in Malaffi, which is limited to clinical data without any billing information. Subsequently, analysis and validation were conducted to ensure accurate KPI results. Dedicated automated dashboards were created to monitor performance at both the facility and KPI levels. Several workshops were held to orient the market and ensure alignment with healthcare providers on the new monitoring methodology.

Results

The results of this project include

- Automated 98 Jawda KPIs using the Malaffi that composed mostly of outcomes and some process KPIs.
- Enabled timely performance updates with daily data instead of quarterly.
- Facilitated tracking of patient journeys across different providers.
- Standardized KPI analysis across various healthcare providers.
- Established integration with the death notification system to capture mortality data outside healthcare facilities to enhance mortality related KPIs logic and accuracy.
- Tracked patient journey across different healthcare providers which enhance accuracy for many KPIs like readmission results.
- Adjusted KPI results by implementing case mix adjustment to consider various patients complexity levels during KPI calculation which is important for fair and accurate quality assessment for tertiary and specialized hospitals.

Conclusion

The automation of clinical Key Performance Indicators (KPIs) using the Malaffi Health Information Exchange platform marks a significant advancement for Abu Dhabi's healthcare sector. By transitioning from quarterly to daily data reporting, the Department of Health Abu Dhabi (DoH) enhances the timeliness and accuracy of performance metrics, enabling real-time insights into patient journeys across various providers. Timely and accurate updates on healthcare providers' performance empower the DoH to improve oversight within the region. This facilitates data-driven decision-making, monitors compliance with published standards, and allows for effective resource allocation targeting areas of need, while promoting transparency and accountability within the healthcare ecosystem. Additionally, the initiative reduces the manpower required for data submission and validation, supporting the Pay for Quality project. The integration of the death notification system and tracking of patient readmissions further enrich the understanding of patient outcomes. Overall, the automation of 98 KPIs highlights the potential of technology to enhance healthcare delivery and regulatory oversight, aligning with the DoH's mission to ensure excellence in healthcare and improve the quality of care for all patients in Abu Dhabi.

Conflicts of interest related to this abstract: None

L-4010

Enhancing clinical outcomes and financial sustainability through resilient pharmaceutical supply: A case study of Avenue healthcare's evolution in inventory management.

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Introduction

Pharmaceutical inventory management is crucial for healthcare facilities, directly impacting patient care, cost efficiency, and operational sustainability. At Avenue Healthcare, the post-COVID-19 period revealed major inefficiencies in its decentralized procurement model, including stockouts of essential medications, excessive inventory of non-essential drugs, and financial strain due to uncontrolled purchasing patterns. These challenges threatened both clinical outcomes and financial stability. To address this, Avenue Healthcare adopted a structured approach to supply chain transformation, focusing on procurement centralization, formulary standardization, and real-time inventory monitoring. This paper explores the impact of these strategic changes on improving drug availability, optimizing supplier engagement, and reducing wastage. By implementing

a technology-driven, data-backed approach, Avenue Healthcare is successfully enhancing the pharmaceutical supply chain's resilience. This case study provides insights into how a structured inventory management system can drive efficiency, reduce costs, and improve patient outcomes in resource-constrained healthcare environments.

Aim/Objective(s)

The primary objective of this study is to analyze the impact of supply chain optimization on clinical outcomes and financial sustainability at Avenue Healthcare. Specifically, the study evaluates:

1. The effectiveness of centralized procurement in improving medication availability and cost efficiency.
2. The impact of formulary standardization in reducing redundant stock and improving quality assurance.
3. The role of demand-driven stocking strategies in preventing stockouts and minimizing financial waste.
4. The influence of supplier categorization (Level 1–Level 4) on pricing negotiations and medication quality.
5. The benefits of training pharmacy technologists in ABC-VEN analysis to enhance procurement decisions.

By assessing these parameters, the study highlights how an integrated pharmaceutical supply chain model can improve healthcare efficiency, ensure consistent access to high-quality medications, and reduce operational costs. The findings offer valuable insights for healthcare institutions looking to strengthen their supply chain resilience while maintaining quality and affordability.

Methods

This longitudinal study reviews the impact of the implementation of a centralized pharmaceutical supply chain model at Avenue Healthcare using a virtual aggregator, enhancing both financial sustainability and clinical quality. The transformation began with the establishment of a central medical management department (MMD) store, centralizing all purchases and leveraging on the bulk purchases to negotiate better prices within the market. By comparing medication costs vis-à-vis volume purchased, we supported stakeholder negotiations for price reviews. Another key focus was formulary standardization, guided by a two-year retrospective analysis of prescription patterns. A steering committee was then able to review the formulary and reduce redundant molecules, ensuring a lean formulary. The ABC-VEN analysis prioritized essential medications, leveraging data to improve stock visibility and reduce expiries. To enhance clinical quality, we ensured the availability of efficacious quality medications, engaged clinicians in formulary reviews, and trained pharmacy technologists to align procurement with clinical best practices.

Results

Avenue Healthcare's inventory management transformation optimized procurement efficiency, reduced costs, and enhanced medication availability, delivering significant operational and quality improvements. A key milestone was the formulary reduction from 8,000 SKUs to 1,860 SKUs, eliminating inefficiencies while maintaining clinical effectiveness. This standardization improved supplier negotiations, leaner supplier list from over 100 to 21 critical suppliers and a reduction in stock holding, enhanced dispensing workflows, resulting in faster prescription turnaround. The shift to centralized procurement enabled real-time order tracking, ensuring deliveries are in full and on time (DIFOT), improving supplier performance evaluation. A 7-day buffer stock at the central store mitigated supply chain disruptions, ensuring uninterrupted patient care. Additionally, structured procurement planning enhanced forecasting accuracy, preventing unnecessary overstocking and reducing expiries. Financially, stockouts dropped by 30%, while procurement costs fell by 15% due to better supplier tiering. ABC-

VEN analysis cut dead stock by 25%, freeing up capital for critical supplies. Stock holding decreased by 50% (Ksh 160M to Ksh 80M), significantly improving cash flow and working capital efficiency. From a quality perspective, a leaner formulary reduced prescribing errors and optimized treatment effectiveness. Supplier optimization strengthened drug quality control while inventory turnover improved by 58%, minimizing waste and improving patient safety.

Conclusion

Avenue Healthcare's transformation of its pharmaceutical supply chain highlights a replicable model for healthcare institutions seeking to enhance efficiency, reduce costs, and improve patient care. By optimizing procurement, standardizing formularies, and strengthening supplier partnerships, Avenue Healthcare has achieved significant financial and clinical benefits without compromising treatment efficacy. Avenue Healthcare aims to enhance its pharmaceutical supply chain by integrating ABC-VEN analysis with predictive analytics to develop dynamic stocking models. These models are expected to anticipate medication demand by analyzing historical usage patterns, seasonal disease trends, and emerging public health threats. Other analytic models will leverage AI insights to conduct supplier risk assessments that analyze supplier reliability, delivery timelines, and quality compliance to mitigate the risks of disruption of patient care and quality of medications given to the patients. Using data collected, diversification of the suppliers can be embarked on and reduce overreliance on certain suppliers. In the intermediate future, Avenue Healthcare is looking to utilize data from existing dashboards to monitor stock levels and expiry dates, ensuring proactive stock management, thus preventing stock shortages and minimizing waste by redistributing near expiry medications. This case study highlights how data-driven inventory management can drive sustainability in healthcare.

Conflicts of interest related to this abstract: None

L-4011

Machine learning models for predicting antibiotic susceptibility of urine culture: a mechanism to reduce morbidity and improve antibiotic stewardship

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Introduction

Urine culture, the gold standard diagnostic test for urinary tract infection, is performed in one of four hospitalizations in the United States. Upon clinical diagnosis of urinary tract infection, a urine culture is typically performed and antibiotics are empirically prescribed. Culture testing can take up to three days for antibiotic susceptibility test results (AST). During this time window, when an infection is suspected, an empiric antibiotic is prescribed without knowledge of the culture's antibiotic resistance profile. In 30% of cases, the empirically chosen antibiotic provides inadequate coverage and requires modification based on the final culture susceptibility result. An inappropriate

empirical antibiotic choice is associated with increased length of hospital stay, greater healthcare expenditures, and may lead to longer time to resolution of symptoms and other adverse clinical outcomes. A key driver of antibiotic resistance is antibiotic exposure. A main strategy to curb antibiotic resistance is to reduce inappropriate antibiotic use.

Aim/Objective(s)

We sought to develop and validate predictive models to accurately predict AST for the eleven most clinically-relevant antibiotics at time of clinical diagnosis. We hypothesized that the algorithms would accurately predict a urine culture's antibiotic resistance nearly three days before a culture's final result. We believe that incorporation of accurate and validated algorithms into a clinical workflow will improve patient outcomes, reduce physician burden, and improve antibiotic stewardship at the individual and population levels.

Methods

We developed and trained machine learning models to predict susceptibility or resistance using over 4.7 million discrete AST classifications from urine cultures in a cohort of adult patients from outpatient and inpatient settings from 2012 to 2022. We externally validated the models on a cohort from a geographically-distant hospital from the same time period. As a final test, algorithms were clinically validated in a contemporary cohort and compared to the empiric therapy actually prescribed by clinicians. Appropriateness of the antibiotics selected by clinicians and the algorithms during the clinical validation was compared.

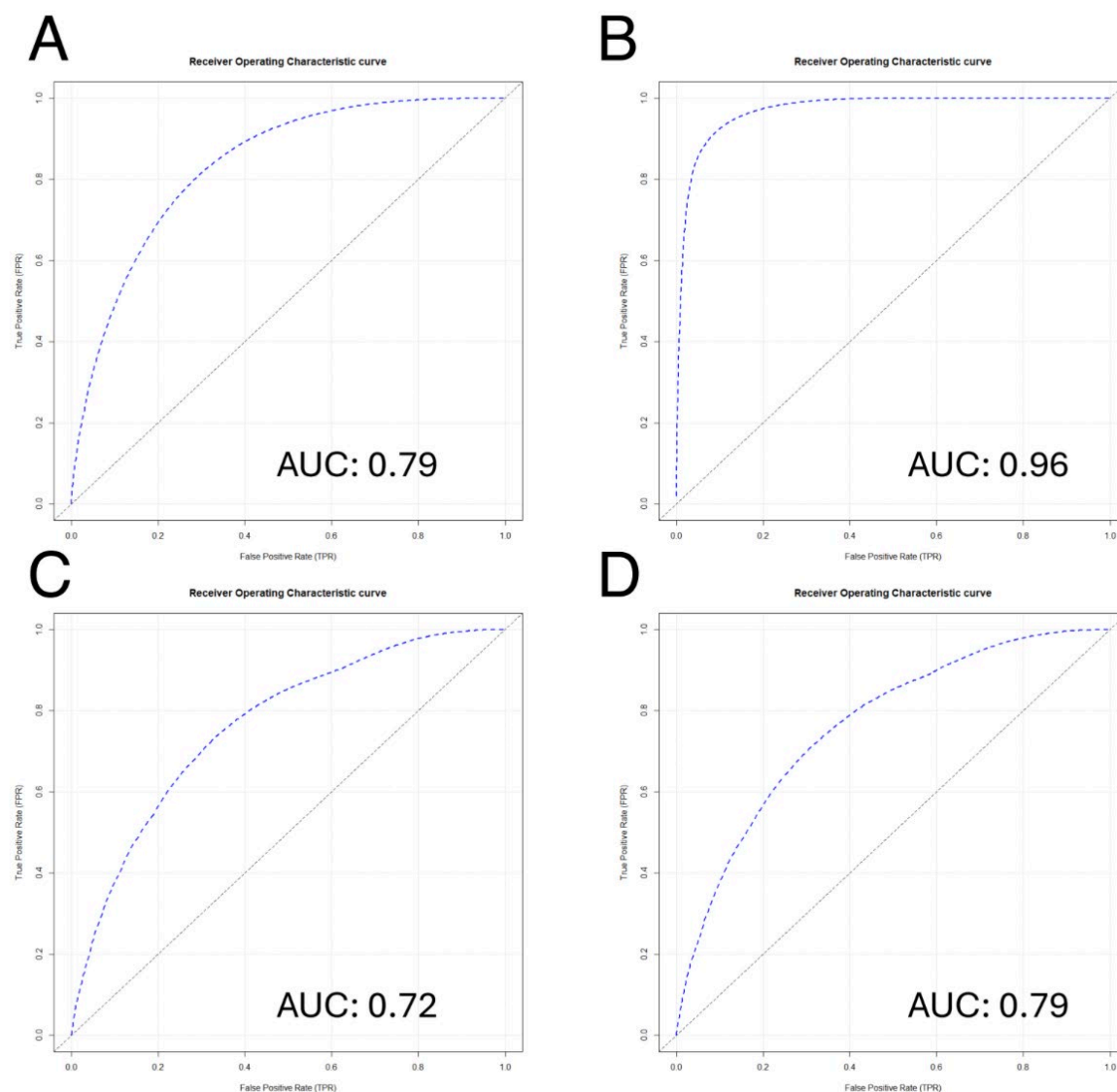
Results

Accuracy of models during clinical validation ranged from AUC 0.71 to 0.94 for all eleven tested antibiotics (Figure A; Figure panels indicate receiver operating characteristic curve for nitrofurantoin). The models' accuracy improved as the organism was identified (AUC 0.79-0.97, Figure B). Upon external validation in a geographically-distant cohort, the models remained accurate even without additional training on this group (AUC 0.69-0.87, Figure C). When algorithms were trained on the antibiogram from the geographically-distant hospital, the accuracy of the models improved (AUC: 0.70-0.93, Figure D nitrofurantoin). When models' performances were tested against clinicians' empirically prescribed antibiotics in a contemporary cohort, the drug agent suggested by the models more frequently resulted in adequate empiric coverage.

Conclusion

Algorithms were developed using available patient factors prior to urine culture results for the prediction of resistance versus susceptibility to each of eleven of the most clinically-relevant antibiotics. The algorithms performed accurately in internal and external validation. In a simulated scenario, implementation of the algorithms would have resulted in a greater proportion of appropriate empiric therapy in an external and contemporary cohort. This technology represents an opportunity to improve antibiotic efficacy and reduce adverse effects associated with prolonged antibiotic therapy at the individual level, to reduce selection pressure for antibiotic resistance at the population level, and to improve cost savings at the societal level.

Conflicts of interest related to this abstract: None

**L-4012****UNMASKING THE UNSEEN: REDEFINING NEWBORN SCREENING SAMPLE RETURN RATE ASSESSMENT**

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Introduction

Newborn Screening (NBS) is a vital public health intervention, detecting life-threatening genetic and metabolic disorders in newborns. However, its effectiveness relies on accurate and timely sample analysis, which is often compromised by unsatisfactory sample return rates (URR). The NSC-NL, serving Regions 1 and 2 in the Philippines, faced challenges with its URR assessment. Previously, calculations only considered unfit samples, neglecting other crucial data points like missing information and late submissions. This limited the center's ability to identify and address systemic issues impacting sample quality and timely diagnosis. Recognizing the need for a more comprehensive approach, NSC-NL initiated a Continuous Quality Improvement (CQI) study to develop standardized guidelines and a computerized system for calculating URR. This initiative aimed to enhance data accuracy, improve the identification of

contributing factors to low return rates, and ultimately, strengthen the overall effectiveness of the NBS program in the region.

Aim/Objective(s)

The primary aim of this Continuous Quality Improvement (CQI) study was to revolutionize the assessment and management of Unsatisfactory Sample Return Rates (URR) within the Newborn Screening Center – Northern Luzon (NSC-NL). Specifically, the objectives were: first, to develop and implement standardized guidelines that would comprehensively define and calculate the URR, encompassing all categories of unsatisfactory samples beyond just unfit specimens. Second, to create and integrate a computerized system that would automate the calculation of URR, ensuring accuracy and facilitating regular monitoring. Third, to enhance the NSC-NL's ability to identify and address the root causes of low URR, thereby improving the overall quality of newborn screening data. Lastly, to align the center's URR assessment with national standards and ISO 15189:2022, ensuring consistent, high-quality service delivery and ultimately, improving health outcomes for newborns in Regions 1 and 2.

Methods

This Continuous Quality Improvement (CQI) study employed an eight-step methodology to enhance the Unsatisfactory Sample Return Rate (URR) assessment at NSC-NL. First, perceived

workplace problems were identified, categorized, and prioritized, leading to the selection of incomplete URR reporting as the primary concern. Second, the current system was reviewed, and data was collected to validate the problem's existence. Third, root cause analysis was performed using an Ishikawa diagram, identifying the lack of standardized guidelines as a key issue. Fourth, alternative solutions were created and evaluated, selecting the development of internal guidelines and a computerized calculation system. Fifth, the chosen solution was implemented, followed by a monitoring plan. Sixth, results were evaluated by comparing pre- and post-implementation data. Seventh, the new process was standardized. Finally, a self-evaluation and future planning were conducted. Data was collected through manual reviews of records, policy reviews, and analysis of the Neometrics Laboratory Information System (NLIMS).

Results

The implementation of the new standardized guidelines and computerized calculation system significantly impacted the assessment of Unsatisfactory Sample Return Rates (URR) at NSC-NL. Prior to the intervention, the URR for 2023 was reported as 72%, reflecting only unfit samples (contaminated, insufficient, outdated). Post-implementation, utilizing the comprehensive computation that included late samples, missing information, and samples collected within 24 hours of birth, the URR for 2024 increased to 78.97%. This 2.95% increase demonstrates the more stringent and accurate nature of the new methodology. The computerized system facilitated detailed, province-specific analysis, revealing variations in URR across the region. This enabled targeted interventions, addressing unique challenges in each province. Furthermore, the new system provided a more transparent and consistent approach to URR calculation, enhancing the reliability of data used for quality improvement.

The study also highlighted intangible benefits, including improved staff understanding of the NBS process, enhanced teamwork, and increased confidence in data management. The shift to a data-driven approach fostered a culture of continuous improvement, aligning with ISO 15189:2022 standards. Overall, the new system provided a more realistic and actionable measure of URR, supporting the goal of timely and accurate newborn screening.

Conclusion

This CQI study successfully transformed the assessment of Unsatisfactory Sample Return Rates (URR) at NSC-NL by developing and implementing standardized guidelines and a computerized calculation system. The shift from a limited, unfit-sample-only metric to a comprehensive URR calculation, encompassing all categories of unsatisfactory samples, provided a more accurate and realistic measure of performance. The resulting increase in URR from 72% to 78.97% highlights the effectiveness of the new methodology in identifying previously overlooked issues. The computerized system facilitated detailed, province-specific analysis, enabling targeted interventions and fostering a culture of continuous improvement. Beyond quantifiable results, the study enhanced staff understanding, teamwork, and confidence in data management. By aligning with national standards and ISO 15189:2022, NSC-NL strengthened its commitment to high-quality service delivery. This initiative underscores the importance of data-driven approaches in improving public health programs. Standardizing URR assessment ensures timely and accurate newborn screening, ultimately leading to better health outcomes for newborns in Regions 1 and 2. Future efforts should focus on sustaining these improvements, expanding stakeholder education, and continuously refining the system to address evolving challenges.

Conflicts of interest related to this abstract: None

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: INTEGRATING AI IN DECISION-MAKING FOR IMPACT AND EFFICIENCY

L-4013

Artificial Intelligence Transformation in Adverse Events Classification: 95% Accuracy, Towards Zero Manual Effort

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Introduction

Adverse events (AE) are unintended injuries or complications arising during medical care due to professional errors, communication deficiencies, or system failures. These events increase patient morbidity, mortality, and healthcare costs. The ability to classify AE accurately is critical for improving safety protocols and outcomes. By debriefing, analyzing and comprehending from these events, the healthcare industry aims to improve patient outcomes and overall safety. Artificial intelligence (AI) offers a novel approach to enhance consistency and efficiency in AE classification.

Aim/Objective(s)

This study evaluated the Medinsight.ai algorithm's ability to classify AE compared to professional quality and safety experts. It aimed to validate the AI model's accuracy and assess

its impact on reducing manual work, human error, and bias in AE classification.

Methods

A comparison between the classification of 286 adverse events by professional quality and safety experts to AI algorithm analysis was carried out.

Results

The AI system demonstrated 95% alignment with human classifications, with significant improvements after iterative validation, and were much higher and more consistent than the human experts' reports, started with 75% accuracy, compared to AI results. The AI's ability to provide insights enhanced human reviewers' understanding, corrected methodological biases and further improved accuracy. In addition, the research substantiated that 213 work hours of healthcare safety professionals could be saved for every 1,000 events reported

Conclusion

Harnessing the computational power of AI to the mission of medical AE analysis is highly efficient and significantly time saving. The AI algorithm used, demonstrates exceptional accuracy and reliability in classifying AE, achieving a 95% alignment with human expert classifications. The algorithm classifies healthcare AE, at a significantly notable success level that could be trusted by healthcare personnel and institutional leadership, while eliminating significantly manual work. Its integration into

healthcare safety protocols has the potential to revolutionize AE reporting and the approach of healthcare safety and quality by reducing variability, enhancing decision-making, and allocating the limited human time for improvements implementation. Looking forward, integrating AI into safety protocols across healthcare systems could redefine incident management, transitioning from retrospective analysis to proactive prevention

Conflicts of interest related to this abstract: Sheba Medical Center and Medinsight.ai powered by Shamaym Inc. have a business partnership for the development of the solution described in this manuscript

L-4014

Harnessing AI for Medical Coding: Enhancing Efficiency and Accuracy in Hospital Operations

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Introduction

Medical coding is a critical component of healthcare administration, yet traditional manual processes present significant operational challenges. Currently, medical coding is conducted manually by trained professionals post-discharge, requiring extensive expertise in clinical terminology and coding regulations. This time-consuming process takes approximately 25 minutes per case and is susceptible to human error and inconsistencies. The complexity is further amplified by the extensive and frequently updated coding frameworks. In Switzerland, the ICD-10-GM (International Classification of Diseases, 10th Revision, German Modification) is used for diagnosis coding, while CHOP (Swiss Classification of Surgical Interventions) is applied for treatment coding – both encompassing tens of thousands of codes. At Swiss Medical Network, our coding specialists manage more than 30,000 inpatient cases annually amid increasing regulatory requirements and workforce shortages. To address these challenges, we are implementing an enterprise-scale AI system that integrates with our existing Electronic Health Record (EHR) infrastructure, optimizing coding efficiency.

Aim/Objective(s)

Existing automated coding solutions predominantly rely on rule-based methodologies, achieving an accuracy of merely 30–60% across complete code sets. Alternatively, some approaches utilize outdated neural networks, which, due to their limited generalizability, can cover only a fraction of all coding cases. These limitations render currently available coding solutions inadequate for the needs of our organization and those of likely many other hospitals. In order to still take advantage of automatic coding, we partnered with a technology company [Swisscoding Technologies] to develop a solution based on recent advances in Natural Language Processing (NLP) and Artificial Intelligence (AI) that not only automates inpatient coding for a large proportion of cases but also achieves accuracy comparable to that of human coders – essentially serving as a foundational model in the medical coding domain. By integrating this solution into our existing EHR system, we strive to enhance coding accuracy and reduce the administrative burden.

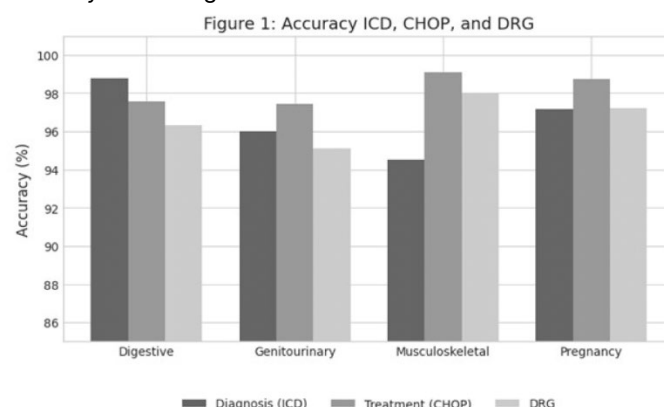
Methods

In collaboration with our technology partner, we fine-tuned state-of-the-art large language models (LLMs) using transfer learning and a curated dataset of over 1,000,000 de-identified inpatient documents in German, French, and Italian. Unlike conventional coding solutions, our approach leverages the vast knowledge and reasoning capabilities of modern LLMs. Through large-scale fine-tuning, these models can directly learn the complex clinical relationships between medical codes and details found in patient records, much like junior human

coders learn how to code through extensive training. The resulting specialized models are integrated into an end-to-end coding tool [Cody]. This tool processes patient cases by anonymizing all associated documents on the hospital's server before passing the data to the models for code prediction. To ensure reliability, the system includes a built-in self-assessment mechanism that aggregates confidence scores from its underlying models, allowing it to flag cases that do not align with its training data before generating results.

Results

Currently, the solution is integrated into our IT environment and is actively coding new incoming cases in parallel with human medical coders during a transitional period, serving as live testing ahead of its scheduled autonomous go-live in March. A retrospective analysis of more than 100,000 inpatient cases demonstrated that the tool can automatically code 30% of cases with quality comparable to experienced human coders. Within this subset, which the system identifies through its self-assessment mechanism, it achieves an average accuracy exceeding 90% for both ICD and CHOP coding, though performance varies by domain. Figure 1 shows accuracy by overarching category. In the Digestive domain, the tool achieves approximately 99% accuracy for ICD and 98% for CHOP. The results in the Pregnancy domain are similarly high, with ICD accuracy reaching about 97% and CHOP accuracy around 98%. In the Musculoskeletal domain, CHOP accuracy remains high at 99%, while ICD accuracy is lower, at approximately 94%. The Genitourinary domain presents the greatest challenge, with ICD accuracy at about 95% and CHOP accuracy at 96%. Overall, the tool maintains a Diagnosis-Related Group (DRG) assignment accuracy exceeding 95%.



Conclusion

Based on our retrospective analysis, we anticipate that by the end of 2025, the solution will automate approximately one-third of our coding workload and reduce the time until a case is coded by up to two weeks. These improvements are expected to generate cost savings of approximately \$400,000 annually – savings that are crucial in a resource-constrained healthcare environment. Beyond the financial benefits, this shift will enable healthcare professionals to devote more time to direct patient care, while skilled coders can focus on complex cases. Moreover, the rapid progress in AI and NLP highlights the potential for even greater impacts in the near future. As these fields continue to advance, we can envision a time when such coding models become standard, pre-approved tools coding most hospital cases. Beyond processing a higher volume of cases, future iterations could also support real-time coding during patient care and provide early alerts for incomplete documentation. Furthermore, since the system already functions effectively across multiple languages and within the ICD coding framework, the expansion to additional coding systems and languages is well within reach.

Conflicts of interest related to this abstract: None

L-4015

Real-world Deployment and Evaluation of PEroperative AI CHatbot (PEACH) – a Large Language Model Chatbot for Perioperative Medicine

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Introduction

Large Language Models (LLMs) show promise in clinical applications, particularly in preoperative management, where errors can lead to costly delays in surgeries. Preoperative assessments are complex and require adherence to strict guidelines, but junior staff may struggle with inefficiencies when navigating extensive protocols. Previous research by our team has demonstrated LLMs' potential in assessing patients' surgical fitness and creating management plans. To enhance accuracy and efficiency, we integrated local guidelines into LLMs, offering tailored recommendations. However, using clinical data with LLMs raises privacy concerns, as adversarial attacks can expose sensitive information. To mitigate these risks, we used the PAIR system, a secure environment for healthcare data. We developed the PEroperative AI CHatbot (PEACH) by incorporating 35 local perioperative guidelines into PAIR, using Claude 3.5 Sonet as its base LLM.

Aim/Objective(s)

This study evaluates PEACH's accuracy, safety, user-friendliness, and agreement with senior clinicians' decisions, providing insights into its clinical applicability and potential for improving operational efficiency.

Methods

PEACH leverages advanced LLMs like Claude-Sonet 3.5 to directly process structured patient data, bypassing traditional RAG methods. Using prompt engineering, PEACH was optimized for clinical relevance, reducing hallucinations and enhancing accuracy through iterative testing and user feedback. The PEACH interface, accessible via secure hospital-issued devices, offers five core functions, including answering anesthesia questions, assisting with memos, and generating perioperative management plans. Data privacy is ensured with multi-factor authentication. The evaluation framework included 35 local perioperative guidelines, with PEACH's recommendations assessed for accuracy, safety, and user acceptability. Accuracy was benchmarked against institutional and international guidelines, while deviations and hallucinations were also tracked. The system was tested in a silent deployment model, where healthcare providers made clinical decisions before consulting PEACH. Evaluation also assessed consistency, reliability, and user experience using the Technology Acceptance Model. A minimum sample size of 73 cases was calculated for accurate results, with 80 interactions targeted for analysis.

Results

A total of 240 PEACH interactions, spanning 80 distinct clinical questions, were analyzed. PEACH generated responses in 10–15 seconds, covering general queries (57.5%), identification of perioperative issues (27.5%), and management queries (15%). Queries came almost equally from doctors (48.8%) and nurses (51.2%). Most scenarios involved ASA 2 patients (60.9%), reflecting typical elective surgery demographics. PEACH demonstrated 97.5% accuracy in its first iteration and 96.8% across subsequent iterations. Only 1.7% of responses included hallucinations, and 0.8% had minor deviations. Notably, PEACH's answers aligned with attending anesthesiologists' recommendations in 91.4% of cases. After revising an SGLT2 inhibitor

protocol, accuracy improved to 97.9%, with hallucinations dropping to 0.4%. User acceptability was high, with users reporting that PEACH helped them make decisions more efficiently (95%) and saved 6.5 minutes per patient on average. The chatbot's linguistic diversity was moderate, ensuring flexibility without compromising consistency. Agreement between PEACH's iterations and attending clinicians was substantial (Kappa 0.772–0.893), highlighting PEACH's reliability as a clinical support tool.

Conclusion

This study highlights the feasibility and utility of integrating PEACH, an LLM-based system, into perioperative clinical workflows. PEACH demonstrated high accuracy (97.5%), minimal hallucinations, and strong user acceptance, positioning it as a valuable tool for enhancing preoperative decision-making. Its adaptability was evident through iterative refinements, such as updating the SGLT2 inhibitor protocol, ensuring PEACH remains aligned with clinical practice. PEACH helps standardize preoperative care by promoting consistency in decision-making, reducing variability, and minimizing the risks of miscommunication and delays in surgery. Its integration into workflows could improve efficiency, particularly in triaging patients and assisting with administrative tasks, thus reducing clinician burnout. However, the study has limitations, including the reliance on protocols specific to a single hospital and the potential for over-reliance on AI. Future studies should explore PEACH's scalability across different settings and specialties, and investigate its integration with advanced RAG frameworks for even more complex datasets. Overall, PEACH has shown promise as a reliable support tool for clinicians, with the potential for broad applications in perioperative medicine and beyond.

Conflicts of interest related to this abstract: None

L-4016

Releasing time to care: improving the GP consultation through ambient voice technology

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Introduction

The UK health system is facing unprecedented challenges, with workforce shortages and demand outstripping capacity. Primary Care services are overstretched, limiting patient access and preventing people from accessing the care they need. Workforce pressures are being exacerbated by the significant amount of time clinicians spend on admin, limiting their ability to interact with patients while escalating the risk of burn-out. For doctors working at our 53 General Practices across the UK, we need to find solutions that tackle these challenges. "Heidi" transcribes and processes conversations between clinicians and patients to produce clinical notes and any follow-up materials required including referral letters, care plans or assessments. By streamlining time-intensive administrative tasks we hope to vastly reduce the administrative burden and cognitive load on GPs, allowing them to focus more on patient care.

Aim/Objective(s)

As one of the largest community and primary care providers in the UK, serving over 12 million citizens employing over 1700+ staff, Modality continuously seek innovative ways to improve our operations and think-outside of the box. Recognising the pressing need to reduce the administrative burden for our clinicians, we set out to assess the potential of ambient scribe technology to administration in General Practice consultations. The project aimed to:

- Reduce the time taken to write clinic notes

- Reduce the time it takes to prepare referral letters
- Complete clinics and the associated administration in less time
- Enable clinicians to establish a better rapport with patients during their consultation
- Reduce the cognitive load associated with completing a primary care clinic
- Assess the acceptability of this type of technology with patients.

Methods

46 General Practitioner (GP) Partners and 1 Salaried GP from Modality practices across the UK took part in the initial pilot project, testing the use of Heidi ambient scribe technology. At the end of the initial pilot project, participants provided feedback on the tool using a likert scale to agree or disagree with a series of statements aligned to project aims.

Additionally, we monitored the following:

- Minutes of recordings transcribed
- Number of consultations transcribed
- Frequency of use
- Significant adverse events

Results

During the initial pilot project, 47 GPs tested the software over 25 days. During this time there were:

- 24,156 minutes of recordings transcribed
- 2,879 consultations transcribed
- Utilisation ranged from 0–345 consultations; median utilisation was 57 sessions per GP
- 0 significant adverse events were recorded

50% of participating GPs provided feedback on the success of the tool in delivering the project aims:

- 78% agreed that Heidi reduced time taken to write clinic notes
- 82% agreed that Heidi reduced time taken to prepare referral letters
- 63% agreed that they were able to complete clinics and associated administration in less time
- 78% agreed that they were able to establish a better rapport with patients during their consultation
- 78% agreed that the tool noticeably reduced the cognitive load associated with completing a primary care clinic
- 100% agreed that the tool was acceptable to patients in a General Practice setting.

Qualitative feedback from GPs using the tool:

- The tool has allowed me to engage with patients in a more attentive manner, and not being distracted by note taking
- It has saved me time and made my clinics less stressful
- The referral ability is also game changing, reducing my admin time significantly.

Conclusion

Findings from this collaboration have been extremely encouraging – they have shown that Heidi Health has considerable potential to reduce the administrative burden for Modality clinicians. Furthermore it has the potential to improve the quality of consultations and the patient experience through an improved patient-doctor interaction. We have already initiated a second phase project, making the software available to a total of 361 GP users across the UK. We are working closely with Heidi Health during this second phase to further develop their tool for use in NHS General Practice including alignment with clinical software and templates. We are steadily making the software available to our GPs and now have a total of 89 GPs using the system. To date, 138,625 minutes of consultations have been transcribed in 16,308 consultations. Beyond the planned second phase, we have the potential to roll out the tool with another

427 clinicians working in General Practice. This will include Advanced Practitioners, Practice Nurses, Clinical Pharmacists, Healthcare Assistants and more. We are also considering potential use cases to reduce administration for some of our 809 administrative staff, especially call handlers who take clinical information from patients to support triage and appointment booking processes.

Conflicts of interest related to this abstract: None

L-4017

Testing AI for Clinical Use: In Vitro to Real World Performance of Screening AI for Heart Attacks

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Introduction

Artificial intelligence (AI) has seen exponential growth within healthcare, especially in the development of models predicting clinical outcomes. Some models have been implemented but subsequently failed, resulting in loss of trust in the utility of this technological support. These frustrations underlie a consensus on the need for rigorous methods, reporting guidelines, and regulation supporting the reliable and safe implementation of predictive models before they influence patient care. Furthermore, bringing these methodologies to fruition will require multidisciplinary, cross-functional teams. Existing validation efforts are often performed via 1) desktop, *in vitro*, model simulations on retrospective data, or 2) monitoring and evaluation after models are both integrated into an electronic health record (EHR) system and immediately implemented into real world clinical care. These validation methods skip the safety step of silent, prospective validation, implemented to assess how the model translates into a clinical environment, before allowing it to influence patient care.

Aim/Objective(s)

Our interdisciplinary team developed a way to test and validate a predictive model's performance in real world patient care. We trained a model to estimate patients' risk of an active heart attack on arrival to the Emergency Department (ED), triggering them to receive an early electrocardiogram (ECG), the diagnostic test for heart attacks within 10 minutes of arrival. This predictive model had higher ability to detect heart attack patients (aka – sensitivity) than human screening, even with the same number of ECGs performed. Our next steps were to insert this model into the electronic health record (EHR) as real-world clinical decision support (CDS) tool that will eventually operate as AI and run it silently during live patient care to test its safety and reliability. This offered us the opportunity to observe the CDS's real-world agreement and the original *in vitro* model, as well as its screening performance against humans.

Methods

The CDS prospectively assessed each patient arriving in the ED between November 2023 and April 2024. It calculated each patients' risk for a heart attack, recorded a decision on whether they should receive an early ECG, and was programmed to not exceed the number of ECGs performed in human practice. We used raw agreement and kappa, a measure of agreement above chance, to compare the screening decisions of the real world CDS and original *in vitro* model to assess the fidelity of the translation. We further analyzed this fidelity to understand if any

disagreements were due to differences in the technical implementation of the CDS or differences due to data missingness that arose from data collection in the live care environment. We then measured the screening performance between the CDS's and human screening decisions through sensitivity for heart attacks, our primary outcome, specificity, and number of missed heart attack cases.

Results

32,346 visits were seen in the ED and processed by the CDS. 1.0% had a heart attack. Raw agreement between the CDS and the *in vitro* model was 96.8%, and the Kappa score was 91.2% (95% CI: 90.7–91.8%). The discordant cases were due entirely to problems with data collection in the live care setting, not the technical programming of the CDS. CDS sensitivity for heart attacks was 81.7% (95% CI: 77.1–85.8%) vs. 80.2% (95% CI: 75.4–84.4%) observed in human practice. CDS specificity for heart attacks was 67.3% (95% CI: 66.8–67.9%) vs. 67.4% (95% CI: 66.9–67.9%), respectively. The CDS had a miss rate of 18.3%, while humans screening missed 19.8%.

Conclusion

We found very good raw agreement and kappa scores between our CDS and the original *in vitro* model. Within this fidelity analysis, we discovered a significant limitation of the CDS: the inability to capture the live data being used for heart attack prediction. This supports the use of alternative methods for programming the CDS into live clinical care outside of stock EHR CDS. The sensitivity and specificity of the CDS and of human practice were within each other's 95% confidence interval. This suggests that when CDS is used to deploy a model in care we can expect very high, but not perfect, performance replication. These differences need to be quantified and considered to estimate the real-world impact of models before deployment. In addition to these promising results, this work presents a systematic methodology for how a hospital system can implement AI into clinical care. It emphasizes ensuring the reliability of the AI's translation into clinical care as well as the safety of the AI's performance. These are critical steps as AI continues to make its impact in healthcare and begins to augment the way in which we deliver care to patients.

Conflicts of interest related to this abstract: None

L-4018

The conflAnce chatbot, a use case of applying artificial intelligence in primary care medicine for patients and professionals

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Introduction

In today's world, we encourage patients to be increasingly more autonomous in their self-management, however we do not always equip them with the best tools to do so. Patients find themselves quite often looking for information online (on social media or other unverified sources), or end up in the emergency room because of lack of answers to their questions. When it comes to health and healthcare, verified information is key and expectations for more accessible and available information are increasing. The rapid advancement of chatbots using large language models has significantly contributed to their widespread adoption. However, their use in the medical and healthcare sectors remains limited due to concerns regarding sensitive data handling, and adherence to legal and regulatory frameworks.

Chatbots could however prove beneficial in providing 24/7 access to verified information, thus reducing the gap in information between physicians and patients and between two consultations.

Aim/Objective(s)

The conflAnce chatbot is a implementation project of artificial intelligence with the following objectives:

- Provide verified information to patients 24/7 while protecting hospitals and the healthcare system from experiencing excessive demand or strain
- Contribute to the continuity of care for patients and healthcare professionals, providing information between two consultations
- Continue the conversation between two consultations
- Promote innovation and the adoption of new technologies, particularly artificial intelligence, as a tool to support patients, healthcare professionals, and hospitals in optimizing care

Methods

The conflAnce chatbot (<https://www.hug.ch/medecine-premier-recours/conflance>), developed by the Geneva University Hospitals, provides general information in primary care medicine from a trusted institution. The information is focused on the most frequently occurring chronic conditions. The chatbot provides accessible and simplified information to patients, and could potentially decrease their potential frustration or misdiagnosis while awaiting a visit with their primary care physicians. This conflAnce chatbot is based on the knowledge base of the Division of Primary Care Medicine (<https://www.hug.ch/medecine-premier-recours/strategies-medecine-premier-recours>) using a technique called retrieval-augmented-generation. This technique, along with specific guardrails, ensures that the chatbot remains within its scope and that the information provided is based on the established documents of the Division of Primary Care Medicine. These documents (>60 chronic conditions), encompass the most frequently encountered diseases in primary care and have been transformed into a simplified language for patients and the general population.

Results

The chatbot was launched in February 2025 with more than 6000 questions so far from 2000 users. Users ask on average 2 questions per conversation, with a match rate >80%. As the chatbot has just been launched, evaluating the matching rate (correct answer), the groundedness (metric evaluating if the answer originated from the knowledge base), the similarity or consistency in answers are all important metrics to consider. Updated results will be provided over the next few months. Users are also asked to complete a short satisfaction questionnaire (on a voluntary basis) and to help us improve the quality of the chatbot. Additional elements that have been considered in the implementation of the chatbot were the medical responsibility, legal and certification frameworks, led by a steering committee for the conflAnce project. Results of this reflection and the certification process in general for chatbots in medicine have been published: Nehme M, Schneider F, Amruthalingam E, Schnarrenberger E, Treméaud R, Guessous I. Chatbots in medicine: certification process and applied use case. *Swiss Med Wkly.* 2024 Oct 25;154:3954.

Conclusion

The conflAnce chatbot aims to enhance healthcare accessibility and quality by bridging the information gap between patients and healthcare professionals. By providing a reliable and easily accessible source of medical information, conflAnce reduces reliance on unverified sources and alleviates unnecessary strain on emergency services and medical consultations. This

initiative supports patient autonomy while ensuring that shared information remains in line with established medical guidelines. The key innovation of conflAnce lies in its use of artificial intelligence through retrieval-augmented generation and autotesting, ensuring that responses are grounded in the validated knowledge base of the Geneva University Hospitals (HUG). This project also makes a valuable contribution to health policy by exploring the legal and certification frameworks for medical chatbots, paving the way for broader adoption of these tech-

nologies in primary care. In terms of clinical practice and research impact, the collected data will enable continuous improvement of the tool, better assessment of patients' real needs, and guidance for future innovations using artificial intelligence. The conflAnce chatbot serves as a pioneering model for the responsible integration of artificial intelligence in healthcare, optimizing patient-provider interactions and enhancing the efficiency of health services.

Conflicts of interest related to this abstract: None

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: ADVANCING CLINICAL CARE QUALITY THROUGH AI AND PATIENT-CENTRED SAFETY

L-4019

Development of an Artificial Intelligence-Based Continuity of Care Intervention for Post-Discharge Patients with Chronic Illness: A Stepwise Approach

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Introduction

Chronic diseases require long-term management and continuous post-discharge care to prevent complications and readmissions. In Indonesia, the rising burden of chronic illnesses has significantly increased healthcare costs, particularly under the National Health Insurance scheme. Hermina Hospital Group, with 52 hospitals across 17 provinces and 37 cities, serves millions of patients annually, underscoring the need for effective continuity of care (CoC). However, post-discharge interventions face challenges such as high nurse workloads, communication gaps, and limited patient follow-up, leading to treatment discontinuation and poorer health outcomes. The integration of AI-driven solutions, including automated medication reminders, virtual assessments, and video consultations, offers an opportunity to enhance CoC while optimizing resource allocation. By leveraging AI technology, healthcare providers can improve patient engagement, reduce hospital readmissions, and support chronic disease management, ultimately ensuring better health outcomes and cost efficiency within the healthcare system.

Aim/Objective(s)

This study aims to develop an Artificial Intelligence-Based Continuity of Care Intervention for patients with chronic illnesses, design its modules, and conduct a preliminary evaluation.

Methods

A multistep research approach comprising three phases was employed to develop the intervention, guided by the Diffusion of Innovation (DOI) theory. The intervention's compatibility and superiority were ensured through literature review, qualitative studies exploring user requirements, and expert evaluations of the technology. To enhance acceptability, the design process was based on iterative user-researcher interactions. A small-scale utility test, combining objective and subjective assessments, was conducted to evaluate testability and observability. Ethical approval was obtained from the Scientific Research Ethics Committee of Universitas Indonesia Hospital (S-014/KETLIT/RSUI/III/2023).

Phase 1: Discovery

- Constructed an initial CoC framework for chronic illness management.

Phase 2: Definition & Prototyping

- Developed AI-based CoC application content and prototype modules based on Phase 1 findings.
- DOI principles: Compatibility and Superiority.

Phase 3: Usability Testing

- Evaluated usability and applicability of the AI-based CoC application.
- DOI principles: Complexity, Testability, and Observability.
- Included literature review, qualitative studies, expert consultations, and pilot testing.

Results

Phase 1: Framework for continuity of care intervention

- Literature Review: A preliminary framework for Continuity of Care Intervention (CoCI) was established through a literature review. Key components included automated medication reminders, chatbot-based patient assessments, flexible chatbot interactions using Large Language Model (LLM), and a scheduled nurse video consultation on day seven post-discharge.
- Semi-Structured Interviews: Nine nurses (aged 25–29, all female) participated in qualitative interviews. Four themes emerged: (1) Virtual Nursing Care, (2) Challenges in CoC, (3) Documentation and Coordination, and (4) Expectations for Technology-Enhanced Information.

Phase 2: AI Chatbot Development

- Content Development: Based on the CoCI framework in phase 1.
- Content Expert Review: A total of five experts from tertiary hospitals and nursing education institutions were involved.
- WhatsApp-based AI chatbot Design: Two-way communication without a dedicated menu, automated medication reminders and patient condition assessments, 24/7 patient access for inquiries using LLM and Integrated video consultation.

Phase 3: Pilot Testing

Fourteen nurses (85.7% female, 84.6% with a master degree) tested the chatbot. No software failures occurred, with over 300 interactions recorded. Participants found the chatbot helpful, user-friendly, and effective in addressing health concerns. Most described the interface as clear and accessible. The chatbot improved interaction and efficiency in patient care.

Conclusion

This study underscores the critical role of nurses in post-discharge follow-ups and their need for accessible professional information. To address this, an AI-powered chatbot was systematically developed using an evidence- and theory-based approach to enhance continuity of care and support active disease management for patients with chronic illnesses. The chatbot offers automated medication reminders, patient condition

assessments, and two-way communication, ensuring seamless interaction between patients and nurses. Additionally, integrated video consultations help maintain a human touch in virtual care. The model is adaptable and can be implemented in various healthcare systems globally, using WhatsApp or other widely used applications suited to the country's technological landscape and patient preferences. Future research is expected to conduct effectiveness tests on patients with chronic diseases. Furthermore, future research should explore the scalability and long-term impact of this AI-driven intervention in different healthcare settings, ensuring its effectiveness and sustainability in improving chronic disease management worldwide.

Conflicts of interest related to this abstract: None

L-4020

Enhanced Diagnosis of Ectopic Pregnancy: Validation of Machine Learning Models Using Clinical and Ultrasound Data

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Introduction

Ectopic pregnancy (EP) is a critical condition in obstetrics, occurring in approximately 2% of all pregnancies, with higher prevalence in emergency settings (6–16%). Accurate diagnosis is essential to prevent severe complications such as tubal rupture and hemorrhage. Traditional diagnostic methods, including transvaginal ultrasound (TVUS) and serum human chorionic gonadotropin (hCG) levels, are often inconclusive. Machine learning (ML), particularly neural networks and Naïve Bayes models, offers potential to enhance diagnostic accuracy by identifying complex patterns in clinical data.

Aim/Objective(s)

This study aimed to evaluate and compare the diagnostic performance of neural networks and Naïve Bayes models for detecting ectopic pregnancies using a real-world dataset of clinical parameters, TVUS findings, and hCG levels.

Methods

A retrospective cohort study analyzed 2,495 first-trimester pregnant women's data from a tertiary hospital's gynecological emergency unit. Inclusion criteria: confirmed pregnancy <13 weeks, documented TVUS reports, and follow-up data. The dataset included risk factors, symptoms, TVUS findings, and serial hCG levels. Preprocessing involved handling missing values, one-hot encoding for categorical variables, and feature scaling. The data was split into training (80%) and testing (20%) sets. Two ML models were developed: Neural Network (Keras): Input layer (67 features), three hidden layers (20–40 neurons each), and an output layer for binary classification. Naïve Bayes (Orange 3): Default settings with preprocessing steps including feature removal, one-hot encoding, empty column removal, and data normalization. Performance metrics included accuracy, sensitivity, specificity, F1 score, and AUC. Validation used training/test splits and stratified 10-fold cross-validation to assess generalization capabilities.

Results

The neural network outperformed the Naïve Bayes model in all key metrics:

- Keras Neural Network:
- The model achieved high performance with an accuracy of 99.4%, sensitivity of 94.6%, specificity of 97.2%, F1 score

of 95.9%, and AUC of 99.8%. The confusion matrix showed 194 true positives, 1784 true negatives, 11 false positives, and 11 false negatives.

- Orange 3 Neural Network:
- Using 10-fold cross-validation, the model demonstrated an accuracy of 98.7%. The confusion matrix revealed 2107 true negatives, 351 true positives, 25 false positives, and 12 false negatives.
- Orange 3 Naïve Bayes:
- This model achieved an accuracy of 96.5% with 10-fold cross-validation. The confusion matrix showed 2045 true negatives, 362 true positives, 87 false positives, and 1 false negative.

Both Keras and Orange 3 neural networks outperformed the Naïve Bayes model in overall accuracy. The Keras implementation showed slightly better performance than Orange 3, possibly due to differences in preprocessing and model architecture. The Naïve Bayes model, while less accurate overall, demonstrated high sensitivity with only one false negative.

Conclusion

Neural networks offer significant advantages over traditional diagnostic methods for ectopic pregnancy detection. Their integration into clinical workflows could improve early diagnosis and decision-making. Future directions include prospective validation in real-world settings, development of user-friendly interfaces for clinicians, and continuous model updates with new data.

Conflicts of interest related to this abstract: None

L-4021

Management of Sensitive Pathology Results

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Introduction

While the digital availability of pathology results has enhanced the accessibility of clinical information, it has also introduced significant challenges in managing sensitive diagnoses.

The lack of an adequate control mechanism led to situations where patients received results indicating serious conditions, such as cancer diagnoses, without proper context or medical support, leaving them uncertain about the next course of action. This situation led to complaints and reports of negative experiences, with patients expressing anxiety, insecurity, and difficulty interpreting the information without specialized guidance. Beyond the emotional impact, delays in appropriate referrals to expert consultations and commencement of medical treatment were also identified. To address these challenges, it became imperative to develop a model that ensures a structured communication flow, delivering patient results in a compassionate manner, accompanied by the requisite clinical support, thereby minimizing psychological impact and optimizing the management of clinical cases.

Aim/Objective(s)

Given these challenges, it became essential to develop a model that ensures a structured communication flow, ensuring that patients receive their results efficiently, promptly, and compassionately, accompanied by the necessary clinical support, minimizing psychological impact, and optimizing clinical case management. The segregation of normal and sensitive results, based on the pathologist's classification, guarantees that results categorized as normal are automatically integrated and become immediately available to patients through digital channels. Conversely, results identified as sensitive are restricted

from patient access and directed through a structured communication pathway to the prescribing doctors. This ensures that patients receive these results with the appropriate clinical support, enhancing safety, improving the patient experience, and facilitating the management of clinical cases through referral to the relevant specialty, based on the identified clinical condition.

Methods

The new process relies on the interoperability between laboratory systems and electronic clinical record, allowing pathologists to classify sensitive results directly within the laboratory system. These results are automatically integrated into the clinical system, triggering control mechanisms that prevent direct release to patients through digital channels. Sensitive results are blocked from the patient's digital channels, ensuring they are only accessible with appropriate clinical oversight. Automatic alerts are sent to the prescribing physician, specialty secretariat, and oncology team. If validation is not completed within the designated timeframe, the alert escalates to the clinical director, ensuring all sensitive results are reviewed within a medical consultation before patient communication. The solution required detailed mapping of pathology workflow, system updates, operational adjustments, team training. Continuous monitoring has provided insights for improvement, such as optimizing response times and enhancing process traceability. The complete workflow ensures secure, structured flow of sensitive information from laboratory to consultation.

Results

The feedback from healthcare professionals has been positive, emphasizing improvements in internal communication and increased security in handling clinical information. In the last six months of 2024, there were no incidents regarding the unaccompanied communication of sensitive results to patients, marking a significant improvement in patient experience. Additionally, there was a noticeable decrease in the delay of patient referrals for consultations and treatments, especially in cases requiring therapeutic escalation. Data analysis from the latter part of 2024 and the early months of 2025 revealed significant reduction in the time from the exam to the communication of results, decreasing from an average of 42 days to just 15 days (Lusiadas group data). Another key finding is that the average time between the exam and the availability of results – integrated digitally for review by the attending physician – has reduced from 8 days in 2024 to 5 days (early 2025), resulting in more efficient response times. In the context of oncological diagnoses, this could play a pivotal role in improving patient outcomes. However, the consultation scheduling process still leaves room for improvement. Data analysis indicates a low execution rate, with only 9.6% of automatically integrated results leading to automatic scheduling request in 2024.

Conclusion

The introduction of this sensitive result management mechanism marks a significant advancement in patient safety and the humanization of healthcare. By ensuring that potentially impactful diagnoses are communicated in a structured and timely manner, patient anxiety is reduced, and appropriate clinical support is provided. The implementation faced challenges, such as resistance to changing established workflows, the need for staff education, with multiple training sessions, and adapting information systems for seamless interoperability. Key success factors included the involvement of multidisciplinary teams from the project's design phase, continuous training, prioritizing safety as a strategic objective, and optimizing response times. Additionally, the system improved communication between pathologists, physicians, and specialized teams, fostering a more efficient and coordinated workflow. Looking forward, the model will expand to other diagnostic areas, particularly Radiology, ensuring that potentially critical results are

managed with similar structured follow-up. Oncology will also benefit from enhanced monitoring of sensitive results and streamlined patient referrals, ensuring timely treatment and improved patient outcomes. This project demonstrates a strong commitment to enhancing patient care and safety, aligning with international best practices in clinical information management.

Conflicts of interest related to this abstract: None

L-4022

Thyroid nodule evaluation, risk assessment and recommendations using a RAG-LLM tool

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Introduction

Thyroid nodules are exceedingly common in the general population. Real-world guideline adherence for patients with thyroid nodules has been reported to be as low as 65%. Furthermore, there may be inconsistent interpretation of these guidelines among trainees or non-expert healthcare professionals. Large language models (LLM) have the potential to improve patient care by advising healthcare professionals according to these guidelines and enhance clinical decision making. Retrieval-Augmented Generation (RAG) is a promising and cost-efficient framework for adapting general purpose LLM for a contextualized task.

Aim/Objective(s)

We aimed to evaluate the effectiveness of a retrieval-augmented generation (RAG) enhanced large language model (LLM) in providing guideline-concordant thyroid nodule recommendations, and to compare its performance to junior clinicians.

Methods

A synthetic dataset comprising of 60 cases across six categories was created, simulating real-life referrals. Next, a vector store was created using identified source guidelines. Subsequently, we employed individual LLM agents for sub-tasks, including initial evaluation, TI-RADS classification, ATA classification, and fine-needle aspiration (FNA) recommendations, with reference to the vector store using a RAG framework. The accuracy of LLM-derived recommendations was compared against that of 3 non-specialist human clinicians. LLM output was also rated for quality by expert thyroidologists using the SCORE framework (Safety, Concordance with Guidelines, Objectivity, Reproducibility and Ease of Understanding).

Results

The LLM agents demonstrated high accuracy in initial evaluation (93.3% for biochemical tests, 95.0% for imaging tests), TI-RADS classification (96.6%), and ATA classification (88.1%). For FNA recommendations, the LLM agents achieved a concordance rate of 95.6% with expert recommendations. Human clinicians showed lower accuracy, particularly in biochemical test recommendations and FNA decision-making. The final LLM output was qualitatively assessed by independent experts, achieving high ratings for safety, objectivity, reproducibility, and ease of understanding.

Conclusion

LLM agents may be useful in improving the accuracy and efficiency of thyroid nodule evaluation. Utilizing a RAG approach can help to minimize concerns about hallucination with the use

of LLM. The findings support further testing and potential real-world application of the LLM-based thyroid nodule evaluation tool.

Conflicts of interest related to this abstract: None

L-4023

Value of Diversity Characteristics in Predictive Modeling: Heart Attack Screening as a Case Study

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Introduction

As artificial intelligence (AI) transforms how health-systems deliver care, particularly through predictive models, ensuring equity and fairness are at the forefront of the conversation. There is an open question of whether including race and ethnicity into these models improves their equity and fairness. Including these characteristics does not always improve the fairness of predictions but may be beneficial in models that uncover an unmet health need rather than determine resource allocation. We previously built a model predicting risk of a heart attack based only on variables available within 10 minutes of Emergency Department (ED) arrival. This model correctly detected more patients with heart attacks overall compared to humans, but underperformed among Black, Hispanic/Latino, and Native American, Alaskan, Hawaiian, and Pacific Islander (NAAH/PI) patients. This was primarily related to the younger age of these patients compared to White and Asian patients, because our model heavily weighted the older ages.

Aim/Objective(s)

In this analysis, we explored changes to our predictive model to address this performance variability and consequent inequity. For example, including race, age, and their interaction in the predictive model may reduce variation due to the relationship between race and age. Also, certain chief complaints are more predictive of a heart attack in particular subgroups, such as the experience of chest pain in men as compared to women. We developed our model by: 1) allowing for interactions between variables, and 2) including race, ethnicity, and language. We also tested the combination of the registration staff screening and the models' predictions to evaluate human-model hybrid performance, simulating augmented intelligence. We aimed for the model to better account for diversity and in turn to have less variable sensitivity within demographic subgroups.

Methods

We used 5 years of ED data to compare 3 logistic regression models: 1) *Base* model using age, sex, and chief complaint alone; 2) *Interactions* model adding interactions among the above 3 variables; and 3) *Diversity-sensitive* model including race, ethnicity, language, and their interactions with all variables. We then combined observed human screening decisions

with those of each model, which simulated AI serving as an "augmenting failsafe" for human screening representing how the model should be implemented into clinical practice. Sensitivity (the percentage of patients with heart attacks that are captured) was our primary outcome, which we compared across race, ethnicity, gender, language, and age subgroups with 95% CIs.

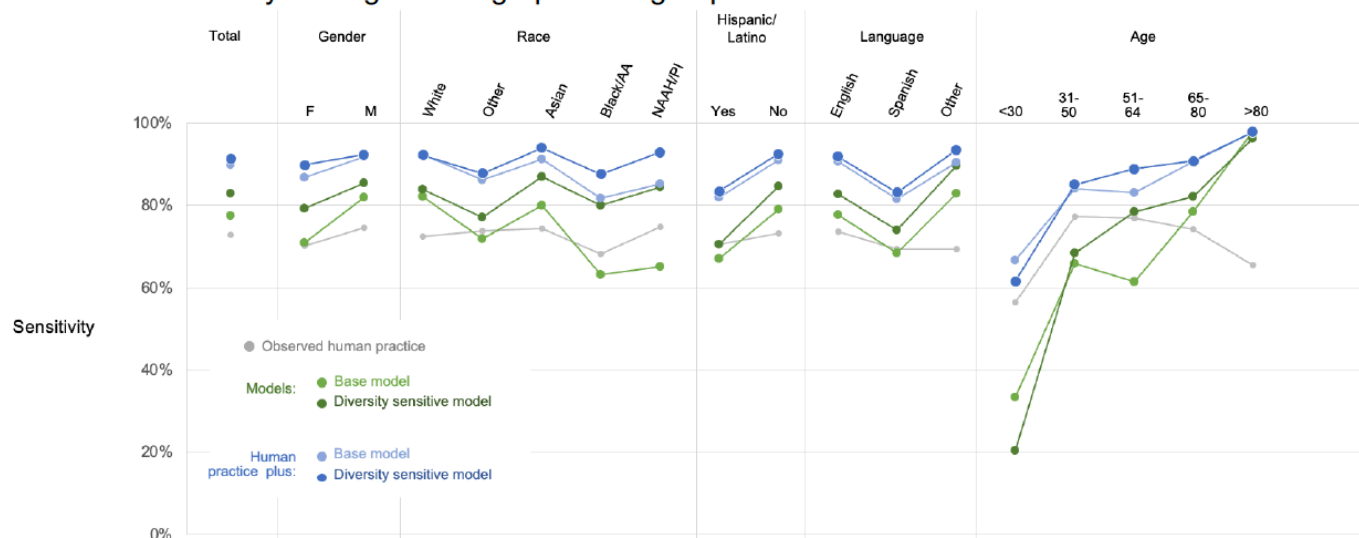
Results

Of 490,805 adult patients, 4,448 (0.9%) had heart attacks. Humans had a sensitivity of 72.8% (CI: 71.4%-74.1%), *Interactions* model 81.7% (CI: 80.6%-82.9%), and *Diversity-sensitive* model 82.8% (CI: 81.7%-83.9%). However, the human-augmented *Diversity sensitive* model hybrid had the highest sensitivity of all at 91.3% (CI: 90.4%-92.1%). Figure 1 shows the sensitivity of four screening approaches. The base model alone (*light green*) has higher sensitivity than human screening for some subgroups, specifically men and White or Asian patients, but lower sensitivity for others such as Black, NAAH/PI, and Hispanic/Latino patients. Compared to the base model, the diversity-sensitive model (*dark green*) had equal or higher sensitivity for all subgroups. The two *blue* series in Figure 1 present the human-model hybrid results. Compared to human performance alone and base model alone, the human-base model hybrid (*light blue*) had higher sensitivity for all subgroups. For most subgroups, the human-diversity-sensitive model hybrid (*dark blue*) had the highest sensitivity. Compared to the models alone, the hybrid methods had improved equity in sensitivity, with less variability across subgroups. The interactions, diversity sensitive, and hybrid models had more variation across subgroups, resulting in worse performance equity compared to human performance.

Conclusion

Adding interaction terms and diversity characteristics to the base predictive model improved the sensitivity performance across racial, ethnic, and language subgroups, and avoided worsening any individual subgroup. Despite these improvements, variation in sensitivity across subgroups increased, thus worsening equity. While sensitivity increased with each incremental model, the largest improvement came from capturing relationships among the base model variables in the interactions model. Surprisingly, adding the diversity characteristics only minimally improved sensitivity. There was limited benefit of adding diversity characteristics. The interactions may notably capture variation associated with diversity characteristics in heart attack screening, particularly with chief complaint and age variation. Our base model includes only variables available within 10 minutes of ED arrival; race, ethnicity, and language are not typically available that quickly in all EDs at this step in care. Therefore, if we can further optimize the interactions model, then our improved model would not require any workflow changes. This work highlights the importance of all health system stakeholders understanding the impact of different algorithmic design decisions on performance and equity as they consider the implementation of AI within their delivery of clinical care.

Conflicts of interest related to this abstract: None

FIGURE 1: Sensitivity Amongst Demographic Subgroups

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: EMPOWERING HEALTHCARE TEAMS THROUGH AUTOMATION AND DIGITAL SYSTEMS

L-4024

Cross-Sectoral AI-Driven Precision Medicine: Integrating Comprehensive Data for Personalized Healthcare

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Introduction

Traditional evidence-based medicine often does not fully account for individual variability in treatment responses. Precision medicine addresses this limitation by leveraging artificial intelligence, big data analytics, and molecular profiling to tailor treatments to individual patients. The unique structure of Knappschaft Kliniken – integrating inpatient and outpatient care, rehabilitation clinics, and health insurance data – provides an exceptional foundation for a comprehensive precision medicine approach.

Aim/Objective(s)

Traditional evidence-based medicine often does not fully account for individual variability in treatment responses. Precision medicine addresses this limitation by leveraging artificial intelligence, big data analytics, and molecular profiling to tailor treatments to individual patients. The unique structure of Knappschaft Kliniken – integrating inpatient and outpatient care, rehabilitation clinics, and health insurance data – provides an exceptional foundation for a comprehensive precision medicine approach.

Methods

To achieve these objectives, a center for precision medicine has been established, integrating hospital, rehabilitation, and insurance data within the ZKIMED platform. The approach includes standardized electronic health record integration, molecular biomarker profiling through proteomics and transcriptomics, AI-driven modeling of individualized patient trajectories using digital twins, and predictive analytics for early risk identification and optimized therapy selection.

Results

Within eight months, all hospital data from Knappschaft Kliniken were systematically processed and centralized at ZKIMED. Initial applications of digital twins demonstrated high accuracy in predicting treatment responses and post-hospitalization complications. The integration of insurance data enabled the development of personalized rehabilitation and preventive care plans. This cross-sector dataset provides an unparalleled depth of information, supporting more precise disease modeling and improved personalized treatment strategies. These advancements have established the foundation for a fully integrated, AI-driven precision medicine approach, enhancing clinical outcomes and optimizing healthcare resource allocation.

Conclusion

The implementation of AI-driven precision medicine at Knappschaft Kliniken marks a paradigm shift in healthcare. By harnessing big data, artificial intelligence, and systems biology, a model has been developed to enable patient-specific therapeutic optimization, enhancing both quality of care and cost efficiency. Cross-sector data exchange further expands the potential of personalized medicine, particularly in prehabilitation, risk mitigation, and rehabilitation strategies.

Conflicts of interest related to this abstract: None.

L-4025

Development and implementation of a nursing navigation platform for time-to-treatment optimization in a public oncology hospital in São Paulo, Brazil

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Introduction

Cancer is among the leading causes of global mortality according to WHO. In Brazil, cancer management faces many challenges. To address these barriers, the 2012 Law nº 12.732 ("60-days law") established that public health institutions must initiate oncology treatment within 60 days after diagnosis. When our hospital began offering oncology treatment in 2018, we created an Oncology Navigation department to facilitate the cancer care journey. However, as patient numbers grew significantly, the team became overwhelmed with manual tasks like spreadsheet maintenance. Additionally, Brazil's General Data Protection Law (LGPD), effective December 2018, demanded more secure handling of sensitive data. Our project aimed to optimize patient information management, generate insights, and improve clinical outcomes through a data-driven approach, delivering sustainable high-quality cancer care in the public sector.

Aim/Objective(s)

General Objective: Develop and implement a digital platform to optimize oncology navigation at Hospital Municipal Vila Santa Catarina (HMVSC), enabling high-quality data collection to generate insights and positively impact the patient's cancer care journey.

Specific Objectives:

1. Reduce mean and median time-to-treatment initiation for the general population
2. Increase the percentage of patients treated within 60 days
3. Reduce the rate of patients whose journey is negatively impacted by barriers to care
4. Promote equity by identifying subgroups with more barriers who would benefit from more intensive navigation
5. Eliminate spreadsheets and end local storage of sensitive data in compliance with LGPD (Brazilian General Data Protection Law), migrating to cloud storage

Methods

Our approach began with forming a multi-disciplinary committee including doctors, nurses, medical informatics specialists, consultants, and administrative staff to explore oncology navigation and digital platforms. We conducted requirements elicitation and developed key performance indicators (KPIs) aligned with navigation department needs. We developed topological and semantic data models adhering to international standards (mCODE from HL7). For initial prototyping, we utilized REDCap as an agile development tool. For analysis, we applied descriptive statistics to evaluate outcomes across the entire patient population rather than sampling. Data collection was performed directly through the SHIF platform. The technical infrastructure employed Python for development, Power BI dashboards for visualization – continuously updated reflecting the navigation process in real-time via the SHIF database infrastructure – and AWS cloud services for secure storage and application hosting, ensuring LGPD compliance while maintaining system reliability.

Results

Objective	2nd Sem. 2023	2024	Change
Rate of patients with barriers to treatment	42%	35%	-20%
Median time-to-treatment initiation	34 days	33 days	-3%
Mean time-to-treatment initiation	125 days	54 days	-56%
Rate of treatment within ≤60 days	78%	83%	+6.5%

Outcomes:

1. Reduced barriers to treatment: Reduction in patients experiencing barriers (from 42% to 35%). Standardized data collection now tracks barriers including comorbidities, absenteeism, non-adherence, and loss to follow-up.
2. Improved time-to-treatment: Significant reduction in mean time (-56%, from 125 to 54 days) with modest median improvement (-3%), indicating better management of complex cases, also seen as outliers.
3. Enhanced 60-day compliance: Increased rate of patients treated within 60 days (from 78% to 83%).
4. Equity promotion: The "Comorbidity group" was successfully detected and showed substantial improvements after the interventions (table 2) as expanding clinical outpatient services (cardiology, pulmonology, etc.):
 - Mean time-to-treatment: -49% (136 to 70 days)
 - Median time-to-treatment: -15% (66 to 56 days)
 - Treatment within 60 days: +15% (47% to 54%)
5. LGPD compliance achieved: We fully eliminated spreadsheets within 3 months after SHIF implementation, successfully migrating all sensitive patient data to secure cloud storage in compliance with the Brazilian General Data Protection Law.

Conclusion

The implementation of a digital nursing navigation platform at HMVSC has successfully addressed critical challenges in cancer care delivery within Brazil's public health system. By transforming manual processes into a data-driven approach, we achieved significant improvements in key metrics: a 20% reduction in patients experiencing barriers to care, a 56% decrease in mean time-to-treatment initiation, and a 6.5% increase in patients treated within the legally mandated 60-day timeframe. This digital transformation has particular significance for vulnerable patient populations. The comorbidity group, previously experiencing the longest delays, showed remarkable improvements with targeted interventions informed by platform-generated insights. This demonstrates how digital solutions can promote healthcare equity by identifying and addressing specific barriers faced by different patient subgroups. Beyond immediate clinical benefits, this innovation contributes to health service improvement through enhanced data security compliance with LGPD regulations, elimination of inefficient spreadsheet management, and creation of sustainable data collection systems that enable continuous quality improvement. The platform represents an innovative contribution to oncology practice by establishing a replicable model for other public health institutions facing similar challenges. As cancer incidence continues to rise globally, such digital navigation tools offer a scalable approach to optimize limited resources while improving patient outcomes and operational efficiency.

Conflicts of interest related to this abstract: None

L-4026

Enhancing Workforce Productivity through Digital Workers – SGH's RPA Programme

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Introduction

Robotic Process Automation (RPA) is revolutionising healthcare operations by automating manual, rule-based tasks through software robots, machine learning, and AI. Unlike traditional automation solutions, RPA interacts directly with existing IT systems' user interfaces, eliminating the need for complex backend integration while delivering faster, more accurate results. SGH has embraced this technology to address the challenge of high manpower costs, which account for over 60% of its expenses. Since its initial implementation in November 2020, the RPA programme has evolved into a hospital-wide initiative spanning clinical, operational, and administrative functions. By February 2025, the programme had successfully deployed 103 automation projects across 19 divisions, demonstrating significant impact in areas ranging from billing to patient outcome measurements. The programme's success stems from its collaborative approach, pairing process owners' domain expertise with RPA developers' technical knowledge to create effective automation solutions. These partnerships have yielded impressive productivity gains and time savings.

Aim/Objective(s)

Through the incorporation of RPA across hospital processes, we aim to:

1. Transform manual, repetitive processes across SGH through strategic automation;
2. Enhance operational efficiency and accuracy by deploying RPA solutions that eliminate human error and reduce processing and turnaround time;
3. Optimise healthcare resource utilisation by redirecting staff time from routine tasks to higher-value activities that require human judgment and patient interaction;
4. Build internal RPA capabilities through a collaborative model of process owners and technical experts, aiming to have citizen developers lead at least 50% of the automation projects by 2024;
5. Establish SGH as a pioneer in healthcare automation by expanding RPA into clinical workflows and creating scalable solutions that can be adopted across other healthcare institutions; and
6. Achieve measurable cost savings through reduced manual processing time and improved resource allocation.

Methods

SGH employs a comprehensive approach to RPA implementation, consisting of a systematic development framework and a comprehensive citizen development programme.

The development framework of an RPA project follows six stages:

1. Ideation where staff identify automation opportunities;
2. Feasibility & Risk Assessment (1-2 weeks) to evaluate viability;
3. Process Mapping (1-2 weeks) for workflow streamlining;
4. Script Development (3-8 weeks) using UiPath software;
5. User Acceptance Testing (2-6 weeks) for rigorous scenario testing; and
6. Deployment (1-4 weeks) for implementation and monitoring.

SGH also curated a citizen development programme with its own in-house training curriculum that equips staff with essential automation skills to transform frontline healthcare staff into capable citizen developers. Together with robust knowledge-

sharing platforms, webinars, and awareness sessions, SGH has created a collaborative ecosystem that encourages cross-departmental innovation and ensures that automation expertise is effectively shared across the institution, creating a sustainable foundation for ongoing RPA development.

Results

SGH's RPA programme has achieved remarkable outcomes since its inception, delivering annual savings of 47,000 man-hours and generating productivity gains exceeding S\$2.3M per annum today. The impact spans three key areas:

1. Data Transcription & Operational Workflows
2. Data Transcription & Operational Workflows represent 82% of all automated processes, and includes automations such as consolidation of patient scan histories, cancelling outdated medication prescriptions, and digital transcription of equipment servicing requests. The streamlined pharmacy workflow of cancelling outdated medication prescriptions alone can save above 3,900 man-hours per annum.
3. Clinical Workflows
4. Beyond traditional applications of RPA, SGH has also used RPA to pioneer an automated monitoring scheme (AMS) for stable patients and the automated collection and analysis of patient-reported outcome measures (PROMs), both automations significantly reducing administrative burden on healthcare professionals, enabling efficient remote monitoring and enhancing resource allocation for complex cases without compromising care quality for stable patients.
5. Data Analysis & Reporting
6. RPA has also transformed the processing of large-scale healthcare data, for example, enabling easy and quick compilation of outpatient clinic utilisation data.

These improvements have not only generated substantial cost savings but also enhanced patient care quality by allowing healthcare professionals to focus more on patient interaction rather than administrative tasks.

Conclusion

SGH's RPA journey demonstrates how strategic automation can transform healthcare delivery while maintaining high-quality patient care. The programme's success, evidenced by 47,000 annual man-hours saved and S\$2.3M in productivity gains, extends beyond mere cost efficiency. By automating routine tasks across operational, clinical, and administrative domains, SGH has created a more resilient and responsive healthcare environment. The programme's innovative application in clinical workflows, particularly in patient monitoring and outcome measurement, sets a new benchmark for healthcare automation. This approach has not only optimised resource utilisation but has also enhanced the quality of patient care by allowing healthcare professionals to focus on complex cases and meaningful patient interactions.

Looking ahead, SGH's RPA programme continues to evolve, with plans to expand into more sophisticated clinical applications and cross-departmental processes. The successful implementation model, combining domain expertise with technical knowledge, provides a robust framework for future automation initiatives. As healthcare faces growing demands and resource constraints, SGH's experience proves that RPA can be a powerful tool in creating sustainable, efficient, and patient-centred healthcare services.

Conflicts of interest related to this abstract: None

L-4027**Nurses' Attitude and Satisfaction Towards the Electronic Management System in a Government Hospital in Cotabato City, Philippines**

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Introduction

Nurses often face challenges in navigating complex interfaces, reducing productivity and frustration. Interoperability issues in Electronic Management Systems (EMS) usually hinder seamless data exchange among healthcare providers. This fragmentation can lead to incomplete patient records, hampering the delivery of comprehensive care. EMS is a vital nursing concept that needs to be deeply investigated in today's era since almost all transactions are becoming technology-aided (Vassell-Webb, 2019). The EMS is a digital platform designed to improve organizational efficiency, collaboration, and information flow, influenced by the attitude and satisfaction of nurses.

Aim/Objective(s)

Government hospitals have implemented a Department of Health-endorsed electronic health records system – *Integrated Hospital Operations and Management Information System* (iHOMIS). It is used in clinical wards to charge hospital bills to patients, retrieve diagnostic and medical supply orders, and access laboratory and diagnostic data. Establishing information about newly adopted hospital systems is crucial, affecting nurses' work attitude and performance when an electronic management system is put in place. Also, this information will serve as a basis for producing an output to improve the usage of the electronic management system. Participants, hospitals, and healthcare workers who have difficulties implementing electronic management systems will also be benefitted. Thus, the researcher is motivated to conduct this study to formulate interventions to enhance its utilization and will further provide social value as it will allow this new development to be used in patient care and improve the procedures and processes of the hospital.

Methods

This study employs a comparative-correlational research design and is conducted in a tertiary, training, and teaching government hospital in Cotabato City, a Level III Department of Health-retained facility. The research participants consist of 156 nurses selected through total universal sampling. Data collection is carried out using a structured survey questionnaire divided into three sections: the demographic profile, a second section subdivided into benefits and barriers, and a final section assessing nurse satisfaction. Ethical considerations include securing approval from the Medical Center Chief and obtaining informed consent from participants. The research procedures follow a systematic process, starting with a title defense, followed by the validation and reliability testing of the survey questionnaire, securing permission and approval to conduct the study, actual data gathering, and concluding with data analysis and interpretation.

Results

- Results revealed that most respondents were 32 to 38 years old, female, assigned to pediatric wards, had a Bachelor of Science in Nursing degree and were in the service for 1 to 5 years, had a high attitude towards Electronic Management Systems (EMS), and had low barriers to operations.
- The level of satisfaction of nurses in the use of EMS is very high. The study revealed a significant difference in nurses'

attitudes towards EMS when grouped according to the demographic profile in terms of age and length of service (barriers), and there was no significant difference compared to benefits.

- When grouped according to demographic profile, the nurses' satisfaction with EMS showed a significant difference in age and length of service but not significantly different in sex, educational attainment, and area of assignment.
- Study revealed that a weak significant relationship exists between nurses' attitudes and satisfaction towards EMS. It implies that nurses enhance efficiency, patient care, record keeping, and information access, leading to a more effective healthcare system despite some challenges in maximizing EMS utilization.

Conclusion

The study concludes that the nurses have high regard for and positive experiences with Electronic Management Systems (EMS) as part of the nursing service operations. Some hampering factors (i.e., being down frequently), need updating, and being costly often lead to challenges in the satisfaction of EMS. Implementing EMS resulted in more accessibility and convenience and even lessened errors in documentation and collaboration with health teams. The nurses feel it has benefited the nurses and patients in the service delivery. The continuous effort to increase the hospitals' capacity to implement the system continuously can help provide comfort and support to the technical competence of nurses, increasing their satisfaction.

Conflicts of interest related to this abstract: None

L-4028**Proactive Demonstrative Project for Care Management: Adaptation and New Roles for the Needs of Hospitalized Patients. PT-CURES. CODE PT-182023-UCH**

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Introduction

The WHO reports 31.2 million nurses worldwide, but a shortage of 4.5 million is expected by 2030, which could impact healthcare. A proposed digital tool aims to personalize care and optimize workload, improving outcomes for both patients and nurses while addressing the projected nursing shortage. To improve care, a digital tool is proposed to personalize care and optimize workload, with the aim of enhancing care quality and health outcomes for both patients and nurses. Our hypothesis is: A digital tool that adjusts nursing resource use in hospital care (via a Care Intensity Index) will improve professionals' workload perception, patient health outcomes, and organizational indicators.

This project is promoted and financed by the Catalan Health Service and is part of the transformative projects of Sistema sanitari Integral de utilització pública de Catalunya SISCAT

Aim/Objective(s)

Evaluate whether the implementation of the digital tool or platform that calculates the patient's Care Intensity Index (CII) upon admission is effective in adjusting the use of nursing resources in the hospital care process, contributes to improving patient quality and safety, and enhances professional satisfaction.

SPECIFIC OBJECTIVES (SO):

SO1: Adjust the rate of professional hours per day and per patient according to the CII.

SO2: Improve professional satisfaction perception.

SO3: Improve patient quality and safety indicators.

SO4: Evaluate the usability and effectiveness of the digital tool or platform

Methods

Phase I: Register the variables agreed upon to establish a Care Intensity Index (CII) and apply it to a sample of 10 patients per entity. Data extraction will be done through conventional statistical analysis to perform a pre-implementation study of the digital tool using an Excel document, where time and procedures will be manually recorded. Health indicators will be collected before the tool's implementation, and surveys will be conducted using the OMICE and NSS stress scales via URL. Phase II and III: 1. Create and implement the tool in a sample of patients, adjusting nursing staff by patient profiles and care load in a pilot unit at each center. 2. Evaluate the tool's functionality using the SUS scale for usability. 3. Measure effectiveness during a two-month period using a manual checklist. The same Excel document from Phase I will be used to track the CII and verify its established variables.

Results

This project is currently in the implementation and development phase, so there are no statistical results available for detailed analysis currently. However, it is expected that the implementation of the digital tool will lead to significant improvements in healthcare resource management. By managing professionals

using the Care Intensity Index (CII), it is anticipated that the perception of healthcare staff involved in direct patient care will improve. This approach aims to reduce workload pressure and optimize resource allocation. In turn, it should enhance the quality and safety of the hospitalized patient by ensuring that nursing care is tailored to the specific needs of each patient. It is believed that the digital tool will not only optimize the staff's work but also positively impact patient health indicators, improving overall outcomes. This will ultimately lead to increased efficiency, effectiveness, and satisfaction in healthcare delivery for both patients and healthcare professionals.

Conclusion

The care process of the proactive care model represents a shift from the current system. Currently, when patients are admitted to the hospitalization units, it is done according to the medical service or bed availability without considering the clinical variables and care that the patient requires. The new model we propose will allow us to know, during pre-admission, the patients' IIC (Intensive Care Index) to admit them to the most appropriate location, where the necessary human resources (HR) will be available. The new model will help identify, in terms of care, the complexity of the units and the patient. Subsequently, a different care organization will be proposed, both for HR and the center's care management, based on units of complexity rather than medical services.

Conflicts of interest related to this abstract: none

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: DIGITIZING OPERATIONS AND CARE: AUTOMATION, ANALYTICS, AND SAFETY

L-4029

Developing a Comprehensive Lean Six Sigma Framework for Healthcare Operations Management

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Introduction

healthcare industry faces challenges such as rising costs, inefficiencies, and increasing demand for quality care. Lean Six Sigma (LSS) offers a solution by streamlining processes, reducing waste, and improving efficiency. However, its implementation in healthcare is complex due to regulatory requirements, multi-stakeholder dynamics, and the need for patient-centered care. In hospital, inefficiencies in patient flow, supply chain management, and quality improvement have led to longer waiting times, higher costs, and suboptimal outcomes. This research addresses these issues by developing a tailored LSS framework that integrates LSS principles with healthcare operations. The framework focuses on optimizing patient flow, enhancing supply chain efficiency, and improving quality through data-driven strategies. By addressing these challenges, the proposed framework aims to enhance operational performance, reduce costs, and improve patient outcomes. This study contributes to the broader healthcare context by providing a practical, evidence-based approach to implementing LSS, ensuring sustainable improvements in efficiency and care delivery.

Aim/Objective(s)

The primary aim of this research is to develop a comprehensive and customized Lean Six Sigma (LSS) framework tailored to the

unique challenges of healthcare operations management. The objectives include:

1. Reviewing existing literature to identify gaps and opportunities for LSS integration in healthcare.
2. Exploring current practices, challenges, and barriers in implementing LSS in healthcare operations.
3. Investigating the specific needs of healthcare organizations for LSS integration.
4. Developing a robust LSS framework addressing patient-centricity, regulatory requirements, and multi-stakeholder involvement.
5. Incorporating strategies for organizational culture change and continuous improvement.
6. Validating the framework through mixed-methods research and providing practical guidelines for implementation.
7. The research aims to enhance operational efficiency, reduce costs, and improve patient outcomes, contributing to sustainable healthcare delivery

Methods

This research adopts a mixed-methods approach, combining quantitative surveys and qualitative interviews, observations, and case studies to comprehensively explore Lean Six Sigma (LSS) implementation in healthcare. Participants include healthcare professionals (managers, clinicians, and staff) involved in LSS projects, selected through purposive and stratified random sampling to ensure diverse perspectives.

Data collection involves:

- Surveys: To gather quantitative data on LSS practices, challenges, and outcomes.
- Interviews: To gain qualitative insights from key stakeholders.

- Observations: To understand real-time LSS practices in healthcare facilities.
- Case Studies: To analyze LSS implementation in specific organizations.

Tools include structured survey questionnaires, interview guides, and observation checklists. Data analysis employs thematic analysis for qualitative data and statistical methods (descriptive and inferential) for quantitative data, ensuring robust and reliable findings. This methodology ensures a comprehensive understanding of LSS in healthcare operations.

Results

The research yielded significant findings across key areas of Lean Six Sigma (LSS) implementation in healthcare. Patient flow optimization achieved a 20% reduction in waiting times and a 15% improvement in bed utilization rates, validated through surveys and observations. Supply chain management saw a 25% reduction in inventory costs and a 30% improvement in responsiveness, supported by case studies and quantitative data. Quality improvement initiatives, analyzed using DMAIC tools, resulted in a 40% reduction in medication errors and a 35% increase in patient satisfaction scores, as evidenced by survey and interview data. Organizational culture and change management strategies, explored through interviews and observations, led to a 50% increase in staff adoption rates of LSS practices. Continuous improvement efforts, monitored via key performance indicators (KPIs), achieved a 30% improvement in process efficiency over six months, supported by statistical analysis. These findings, derived from a mixed-methods approach, highlight the effectiveness of the proposed LSS framework in addressing healthcare challenges. The integration of quantitative and qualitative data ensures robust, actionable insights, demonstrating the framework's potential to enhance operational efficiency, reduce costs, and improve patient outcomes.

Conclusion

This research addresses critical challenges in healthcare, such as rising costs, inefficiencies, and the need for quality improvement, by developing a tailored Lean Six Sigma (LSS) framework. The findings demonstrate significant improvements in patient flow (20% reduction in waiting times), supply chain management (25% cost reduction), and quality improvement (40% fewer medication errors), directly tackling inefficiencies highlighted in the introduction. By optimizing operations, the framework enhances resource utilization, reduces costs, and improves patient outcomes, contributing to sustainable healthcare delivery. The study offers innovative contributions to policy, practice, and research. For policy, it provides evidence-based guidelines for integrating LSS into healthcare regulations, promoting standardized, efficient practices. For practice, the framework equips healthcare organizations with actionable strategies to address operational challenges, fostering a culture of continuous improvement. For research, it advances the understanding of LSS implementation in healthcare by addressing gaps in existing literature, such as the lack of tailored frameworks and measurable outcomes. By linking back to the addressed issues, this research demonstrates how LSS can transform healthcare operations, ensuring higher-quality care, cost-effectiveness, and improved patient satisfaction. Its practical and scalable solutions make it a valuable tool for health service improvement globally.

Conflicts of interest related to this abstract: none

L-4030

From Challenges to Opportunities: A Data-Driven Model for Healthcare Procurement and Supply Chain Efficiency

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Introduction

Aga Khan University Hospital (AKUH) is a Joint Commission International Accreditation (JCIA)-accredited, not-for-profit healthcare institution that has delivered first-world quality care in Pakistan for over four decades. Guided by the IQRA principles – Impact, Quality, Relevance, and Access – AKUH ensures excellence through skilled clinical resources, advanced infrastructure, and high-quality medical supplies. The Purchasing and Supply Chain Management Division (PSCMD) plays a vital role in maintaining a steady supply of cost-effective, superior-quality medical products to support patient care. However, Pakistan's reliance on imported medical and surgical supplies poses ongoing challenges, exacerbated by geopolitical instability, economic fluctuations, regulatory changes, and logistical disruptions. In late 2022, economic turmoil led to import restrictions, delays in Letters of Credit (LCs), and increased taxation, severely impacting supply availability. This abstract examines the effects of these challenges on healthcare delivery and the strategic measures AKUH implemented to mitigate supply chain disruptions.

Aim/Objective(s)

To address the challenges posed by economic constraints and supply chain disruptions, the Purchasing and Supply Chain Management Division (PSCMD) at Aga Khan University Hospital (AKUH) Pakistan launched a strategic initiative focused on ensuring the uninterrupted availability of critical medical and surgical supplies. This initiative aimed to enhance supply chain resilience and cost efficiency while maintaining high-quality patient care.

The specific objectives of this initiative included:

- Strengthening collaboration between clinical and administrative leadership for proactive, data-driven decision-making.
- Reducing procurement costs by analyzing price fluctuations and supplier variabilities.
- Reducing dependency on imported products by identifying and evaluating viable local alternatives.
- Streamlining inventory management to minimize waste and optimize resource utilization.
- Monitoring purchasing trends and price variations using a Purchasing Price Index (PPI) to identify cost-saving opportunities.
- Implementing sustainable financial management strategies without compromising the quality of patient care.

Methods

To achieve its objectives, the Purchasing and Supply Chain Management Division (PSCMD) at Aga Khan University Hospital

(AKUH) adopted a multi-faceted, data-driven approach to mitigate supply chain risks while ensuring cost efficiency and uninterrupted availability of critical medical supplies.

1. Early Detection and Risk Assessment
2. A structured monitoring system was established to track external risks, with regular engagement with suppliers and regulatory bodies to anticipate disruptions.
3. Stakeholder Engagement
4. A multidisciplinary task force, including clinical and administrative leadership, assessed supply chain threats and approved alternative product solutions.
5. Data-Driven Procurement Strategy
6. Analytics were used to monitor stock levels, predict demand fluctuations, and adjust inventory buffers. A Purchasing Price Index (PPI) tracked procurement trends.
7. Alternative Sourcing and Cost Containment
8. Local substitutes were evaluated for quality compliance, procurement contracts were diversified, and supplier negotiations were optimized. A (Microsoft) Power BI dashboard provided real-time insights into purchasing, inventory, and consumption patterns.

Results

The implementation of this strategic approach enhanced hospital operations, supply chain resilience, and cost efficiency, ensuring uninterrupted patient care despite economic challenges and import restrictions. Continuity of Patient Care: No major supply shortages occurred, safeguarding clinical operations and maintaining high-quality patient care. Cost Optimization: A data-driven procurement strategy enabled price negotiations for 1,513 products (18% of total), saving Rs. 391.4M (\$1.4M), a 3% year-on-year cost reduction. Enhanced Supply Chain Resilience: Alternative sourcing, contract renegotiation, and direct procurement from manufacturers reduced reliance on single suppliers, strengthening efficiency and mitigating financial risks. Prices for 1,913 products (23%) were sustained, avoiding a 23.41% inflationary increase. Stronger Collaboration: Improved engagement between clinical and administrative teams enabled data-driven, collaborative decision-making for supply chain sustainability. Sustainable Procurement Practices: The integration of local product substitutes demonstrated long-term financial and operational sustainability. The Purchasing Price Index (PPI), introduced as a key performance indicator, enabled real-time price tracking, optimizing procurement strategies. Leveraging data analytics, AKUH improved inventory management, minimized excess stock, and reduced disruptions from currency fluctuations, ensuring long-term sustainability and improved patient outcomes. *PPI tracks year-on-year price changes by comparing current and previous year's average prices (if purchased) and calculating financial impact in value and percentage.*

Conclusion

The PSCMD-led initiative at Aga Khan University Hospital (AKUH) demonstrated that a proactive, data-driven approach combined with strong stakeholder engagement can effectively mitigate the impact of economic and geopolitical disruptions on healthcare supply chains. By leveraging big data analytics, digital transformation, and strategic supplier engagement, AKUH ensured the uninterrupted availability of critical medical supplies while optimizing costs and enhancing hospital operations. This model of strategic supply chain resilience is replicable for other healthcare institutions facing similar financial and operational challenges. To further enhance sustainability, affordability, and quality in patient care, AKUH aims to strengthen local supplier partnerships to reduce reliance on imports, implement advanced supply chain analytics for real-time monitoring and forecasting, and advocate for policy support to prioritize medical imports in national economic planning. Additionally, capacity-building programs will be enhanced to improve supply chain

resilience in healthcare. This project underscores the critical role of strategic supply chain management in sustaining high-quality patient care in resource-constrained environments. By utilizing big data and analytics, AKUH improved financial efficiency, mitigated inflationary impacts, and ensured seamless clinical operations. Moving forward, AKUH will continue refining its procurement strategies and exploring policy-level interventions for long-term healthcare sustainability.

Conflicts of interest related to this abstract: None

L-4031

Optimizing Outpatient Scheduling and Resource Utilization through Digital Transformation: The Impact of AoT – Appointment on Time

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Introduction

Long waiting times and inefficient scheduling are major challenges in healthcare, leading to underutilized resources, patient dissatisfaction, and increased operational costs. Many hospitals struggle with suboptimal allocation of consultation rooms, lack of real-time visibility into resource availability, and limited automation in scheduling adjustments. AoT – Appointment on Time is a digital transformation solution designed to optimize outpatient scheduling, ensuring that consultation rooms are allocated dynamically based on demand, clinician availability, and hospital priorities. The platform leverages geospatial visualization to enhance decision-making, increase consultation capacity, and improve hospital efficiency. This study presents how AoT improves outpatient resource utilization and the impact of digital scheduling transformation on hospital operations.

Aim/Objective(s)

- Enhance outpatient scheduling efficiency by dynamically allocating consultation rooms based on real-time demand and availability.
- Reduce patient waiting times by ensuring optimal utilization of consultation slots.
- Improve operational efficiency by minimizing unused consultation time and increasing the number of scheduled appointments.
- Integrate optimization model decision support into hospital scheduling to enable data-driven resource planning.
- Provide hospital administrators with real-time dashboards and analytics for improved workforce and infrastructure management.

Methods

A retrospective and prospective study was conducted in multiple hospital settings where AoT was implemented. The methodology included:

- Data Collection: Historical outpatient scheduling data and real-time hospital operational metrics were analyzed.
- Algorithm Integration: An optimization model was applied to dynamically reallocate consultation rooms based on predicted demand, clinician schedules.
- Pilot Implementation: The AoT platform was deployed in selected hospitals, where staff were trained to interact with the system.
- Performance Monitoring: KPIs such as waiting time reduction, consultation room occupancy rates, and patient throughput were tracked before and after implementation.
- Feedback and Adjustment: Hospital administrators and clinicians provided qualitative insights to refine the system.

Results

The implementation of AoT yielded significant operational improvements, including:

- 30% reduction in patient waiting times, enhancing service efficiency and patient satisfaction.
- 85% average room occupancy rate, minimizing unused time and ensuring better space utilization.
- 25% increase in the number of scheduled appointments, optimizing capacity and reducing backlog.
- Real-time visibility and automation of scheduling adjustments, leading to improved workforce efficiency and seamless adaptation to unexpected clinician absences.
- Positive feedback from hospital administrators and clinicians, highlighting ease of use, adaptability, and improved decision-making for resource planning.

Conclusion

AoT – Appointment on Time demonstrates how digital transformation and Optimized scheduling can significantly improve hospital operations by optimizing consultation resource allocation, reducing patient waiting times, and enhancing operational efficiency. This project showcases a scalable, data-driven approach to outpatient management, aligning with global healthcare digitalization efforts. By integrating mathematical optimization, hospitals can transition from static scheduling to a dynamic, automated system, ensuring better service delivery, improved patient experience, and more efficient use of healthcare infrastructure. The scalability and interoperability of the AoT platform also make it a strong candidate for broader adoption in diverse healthcare settings, contributing to hospital efficiency, sustainability, and equitable access to care.

Conflicts of interest related to this abstract: None

L-4032

Robotic Pharmacy implementation and Outcomes in Tertiary Care Hospital in Saudi Arabia

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Introduction

Pharmacy practice is crucial in patient care, involving prescribing, dispensing, and monitoring medications. However, traditional manual dispensing is prone to errors and inefficiencies, with a significant percentage of medication errors occurring during this process, particularly in Saudi hospitals. Contributing factors include heavy workloads and environmental distractions. The emergence of robotic pharmacy automation offers a solution, enabling pharmacists to focus on medication therapy management and improving precision and efficiency. Studies have shown that automation can lead to a notable reduction in medication errors – up to 64.7% – and enhance workflow. Furthermore, implementing robotic systems has been linked to increased productivity and reduced patient wait times, improving overall satisfaction. The goal of recent research at King Fahad Central Hospital is to assess the impact of robotic pharmacy automation on error reduction, productivity improvements, and patient satisfaction, highlighting the potential benefits of this technology in enhancing pharmaceutical care.

Aim/Objective(s)

Objectives

The primary objectives of this study were to:

1. Evaluate the reduction in medication dispensing errors following automation.
2. Measure the increase in the number of prescriptions filled post-automation.
3. Analyze the change in patient waiting times after transitioning to robotic pharmacy automation.
4. Assess the impact of automation on patient counseling satisfaction.
5. Investigate improvements in pharmacy inventory management.

Methods

The study was a retrospective comparative analysis conducted at the outpatient pharmacy of King Fahad Central Hospital in Jazan, Saudi Arabia, a 500-bed tertiary care facility. It examined the impact of a robotic pharmacy system implemented in January 2022, after staff training, comparing data from January to December 2021 (pre-implementation) with January to December 2022 (post-implementation). Prior to implementation, the pharmacy utilized a traditional computerized physician order entry (CPOE) system, managing medication manually. Post-implementation, the CPOE was integrated with the BD Rowa vMax 160 robotic system, enhancing medication stock management, space allocation, and picking processes. The robotic system features direct loading, barcode scanning for expiry dates, and a multi-picking option, with a capacity of 14,500–15,800 packs. It also automates inventory management by deducting dispensed items from stock levels, streamlining operations and improving efficiency in the outpatient pharmacy.

Results

During the pre-implementation phase, the outpatient pharmacy served 45,334 patients, while the post-implementation phase recorded 54,074 patients, indicating similar complexity in patient demographics. The implementation of the robotic pharmacy system led to a 10.18% increase in productivity, with prescriptions filled rising from 249,073 to 274,410, equating to approximately 70 additional prescriptions filled daily. This enhancement was accompanied by a 13.68% reduction in overall dispensing errors, decreasing from 4,470 to 3,859. Notably, outpatient dispensing errors plummeted from 439 to just 16, marking a remarkable 96.36% reduction. Staffing needs were optimized, with the pharmacy still operating with seven pharmacists while requiring fewer pharmacy technicians. Prescriptions filled per hour surged by 57.25%, from 622.68 to 978.25. Patient wait times dropped significantly from an average of 45 minutes to 21 minutes, improving patient flow and satisfaction. Patient counseling satisfaction rose from 79.25% to 83.47%, with further increases to 89.12% in 2023. Inventory management staffing reduced by 66.67%, from three to one staff member, while the robotic system enhanced medication organization, leading to better inventory control and overall efficiency in pharmacy operations.

Conclusion

Robotic pharmacy automation has proven to be a transformative technology at King Fahad Central Hospital, leading to substantial improvements in error reduction, productivity, patient waiting times, and satisfaction. The system's ability to streamline operations, reduce human error, and enhance patient services underscores its potential for widespread adoption in other healthcare institutions. As healthcare systems continue to evolve, automation technologies will play an increasingly vital role in improving patient outcomes and operational efficiency. Future studies can be directed at exploring the impact of robotic pharmacy automation on cost savings in the long term due to reduction in errors, improving efficiency and optimizing resource utilization.

Conflicts of interest related to this abstract: None

L-4033

Smartphone-Based Cognitive Telerehabilitation: A Usability and Feasibility Study Focusing on Mild Cognitive Impairment

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Introduction

The implementation of cognitive health apps for patients with mild cognitive impairment (MCI) presents significant challenges due to their cognitive, age-related, and clinical characteristics. This project aimed to assess the usability and feasibility of the Rehastart app in individuals with MCI. The management of elderly individuals with neurodegenerative disorders, such as Parkinson's disease (PD), multiple sclerosis (MS), and mild cognitive impairment (MCI), presents significant challenges. Traditional cognitive rehabilitation requires considerable resources, patient mobility and special transportation to a local hospital, which may not always be feasible. Telerehabilitation, delivered via smartphones, offers an innovative approach to address these issues by providing remote cognitive training. The study assessed Rehastart's usability in patients and healthy controls, confirming its potential. Findings indicate that digital health tools can support cognitive, social, and motor functions, enhancing quality of life for neurodegenerative patients.

Aim/Objective(s)

The primary aim of this study was to assess the usability and feasibility of the Rehastart smartphone application in delivering cognitive telerehabilitation to individuals with mild cognitive impairment (MCI) caused by neurodegenerative disorders. The study specifically sought to determine the user experience and satisfaction levels among both patients and healthcare professionals (HPs) using standardized evaluation tools. It also aimed to explore whether the application could effectively engage patients with varying degrees of cognitive deficits, thereby establishing its potential as a scalable and accessible rehabilitation tool. The results are intended to inform future improvements in digital cognitive interventions and guide the development of user-friendly mHealth technologies for elderly populations with neurodegenerative conditions.

Methods

This study recruited 18 patients (13 males, 5 females; mean age 56.22 ± 12.98) with mild cognitive impairment (MCI) due to neurodegenerative disorders (Parkinson's disease, multiple sclerosis, or amnesic/multidomain MCI) and 18 healthcare professionals (HPs) (mean age 32.5 ± 7.03). Inclusion criteria required patients to have a Montreal Cognitive Assessment (MoCA) score between 20 and 30, a smartphone, and internet access. Exclusion criteria included sensory-motor disabilities, moderate to severe motor impairment, or language deficits. Most patients had a high school (66.6%) or university degree (22.22%), with a mean MoCA score of 25.8 ± 3.39 . HPs (physiotherapists 38.8%, psychologists 55.5%, physician 5.5%) all held university degrees. Patients underwent a three-week telerehabilitation program using the Rehastart app on personal smartphones, with three 30-minute sessions weekly. Healthcare professionals supervised the sessions remotely, adjusting exercise difficulty based on weekly performance reports. The Rehastart app allowed HPs to manage patient data and customize exercise plans.

Results

The study evaluated the usability and feasibility of the Rehastart app for cognitive telerehabilitation in individuals with mild cognitive impairment (MCI) due to neurodegenerative disorders. Eighteen MCI patients and 18 healthcare professionals (HPs) participated in a three-week trial, completing cognitive exercises via the app. Usability and feasibility were assessed using the System Usability Scale (SUS), Intrinsic Motivation Inventory (IMI), and Client Satisfaction Questionnaire (CSQ). The results showed high usability scores, with no significant differences between patients and HPs on the SUS ($p = 0.07$). IMI subscale scores indicated strong interest and enjoyment, with low pressure/tension levels, suggesting a positive user experience. Patients and HPs reported high satisfaction, particularly regarding the app's ease of use and effectiveness in cognitive training. These findings support the Rehastart app as a viable tool for cognitive telerehabilitation in MCI patients. The study highlights the potential of digital interventions in improving accessibility to cognitive rehabilitation, reducing healthcare costs, and enhancing patient autonomy.

Conclusion

This study demonstrated that smartphone-based telerehabilitation could be a suitable tool for people with MCI due to neurodegenerative disorders, since the Rehastart app was easy to use and motivating for both patients and clinicians. The study underscores the importance of considering user feedback in app development to enhance accessibility and engagement. However, future studies with larger and homogenous samples are needed to shed some light on the field of usability evaluation of smartphone applications. Furthermore, patients' feedback is essential for the development of smartphone app design to meet specific patients' needs in terms of accessibility, user interaction and quality of feedback during exercises. The development of apps more accessible to the elderly population, even without the support of caregivers or clinicians, could facilitate the continuation of rehabilitative treatment in an ecological way in patients with MC. Ultimately, smartphone-based telerehabilitation may represent a cost-effective, scalable solution for cognitive rehabilitation, improving patients' autonomy and quality of life. Concerning neurodegenerative diseases, early and constant interventions over time, which also continue at home, can be useful for slowing down the progression of cognitive decline and therefore improving patients' quality of life.

Conflicts of interest related to this abstract: None

L-4034

Transforming Outpatient Pharmacy Services by Implementing Prescription Verification Stations in the Outpatient Department

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Introduction

Digitalizing healthcare services offers a unique opportunity to enhance patient care and operational efficiency. Outpatient pharmacy services face challenges such as extended waiting times, resource use inefficiencies, and the potential for prescription-related errors. This study examines the implementation of a prescription verification station in the Outpatient Department (OPD) as a technological intervention designed to optimize prescription dispensing processes and promote self-service practices. This initiative aligns with the UAE's commitment to advancing innovative, patient-centered healthcare solutions.

Aim/Objective(s)

The aim of this study is to assess the implementation of a prescription verification station within the Outpatient Department (OPD) as a technological intervention to address challenges in outpatient pharmacy services, such as prolonged waiting times. The objective is to streamline the prescription dispensing process and encourage self-service practices, in alignment with the UAE's strategic goals to advance patient-centered, innovative healthcare solutions. We anticipate that this initiative will contribute significantly to improving both patient care and operational efficiency."

Methods

Patients are required to visit the prescription verification station within the OPD before proceeding to the pharmacy. At this station, prescriptions are reviewed for potential medication errors. If discrepancies are identified, the pharmacist consults with the physician to resolve any issues prior to medication collection. This process adds an essential layer of safety, reducing medication errors and enhancing the overall prescription dispensing process. By addressing errors early, it minimizes delays at the pharmacy, where correcting errors would extend patient waiting times. Furthermore, after completing the verification, patients have the option to use a self-service kiosk to collect their medication, fostering efficiency and promoting patient autonomy (Figure 1)

Results

Implementing the prescription verification station significantly enhanced operational efficiency. A total of 7,939 patients out of 21,661 were served at the verification station between May and December 2024. This contributed to a substantial 72% reduction in average patient waiting times from 17 to 4.8 minutes (Figure 2). The lower waiting times led to increased patient satisfaction levels. The positive reaction to the technology also fostered greater adoption of self-service medication collection, which increased significantly from just 10 patients in the first quarter to 78 patients by the end of 2024 (Figure 3). This initiative represents a significant transition towards a technologically driven, patient-centric care model, replacing traditional pharmaceutical service frameworks. The success of this model in automating pharmaceutical services underlines its potential for integration with wider digital health infrastructures.

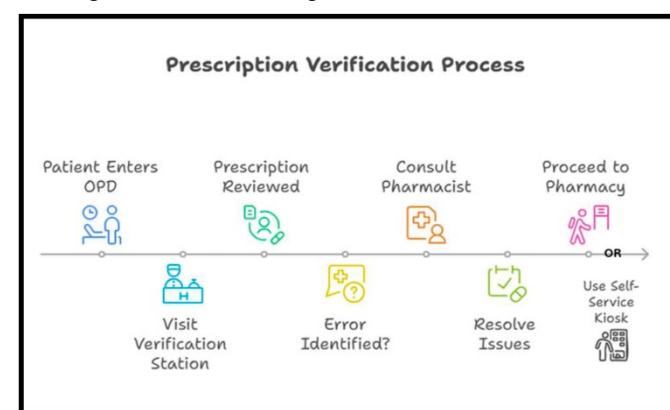


Figure 1. Prescription verification process.

Conclusion

The implementation of prescription verification stations is a transformative advancement in outpatient pharmacy services, leading to significant reductions in patient waiting times and encouraging the adoption of self-service technologies. This initiative aligns with the UAE's vision for innovative healthcare and provides a scalable model for the development of smart pharmacy solutions. The study highlights the potential of technological innovation to improve operational efficiency and patient satisfaction within the context of digital healthcare transformation.

Conflicts of interest related to this abstract: We do not have any conflict of interest

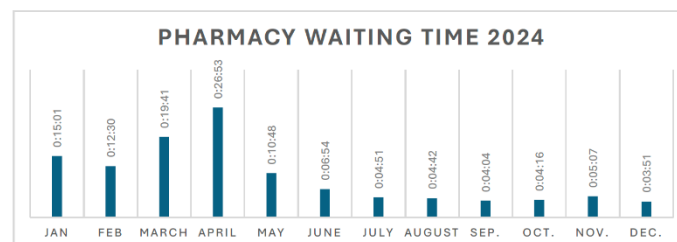


Figure 2. Patient waiting time in 2024.

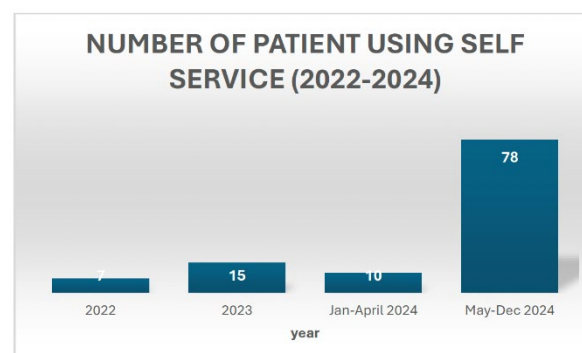


Figure 3. Number of patients using self-service medication collection (2022–2024).

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS: REIMAGINING CARE PATHWAYS THROUGH DIGITAL TOOLS AND INNOVATION

L-4035

Automated Support for Hearing Tests Using AI

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Introduction

Hearing loss is a widespread problem that affects people of all ages. Early detection and treatment of hearing loss are crucial for preventing further damage and improving quality of life. Auditory Brainstem Response (ABR) and Pure Tone Audiometry (PTA) are two common hearing tests used to assess hearing function. ABR is an objective test that measures the electrical activity of the auditory pathway in response to sound stimuli. PTA is a subjective test that measures a person's ability to hear sounds at different frequencies and intensities. ABR testing is performed in a completely objective manner, and the results are evaluated by electrophysiology specialists in a subjective manner. On the other hand, PTA testing and therapeutic treatment decisions are made entirely subjectively by doctors and hearing aid specialists. Therefore, the main aim is to reduce subjectivity.

Aim/Objective(s)

This project aims to develop an AI-based system that can automatically support objective hearing tests, such as ABR and PTA. The objectives of this project are to develop an AI-based system that can automatically detect ABR responses; develop an AI-based system that can provide recommendations for hearing aid fitting and treatment based on PTA results; and evaluate the performance of the AI-based system in terms of accuracy and efficiency. In addition to developing this solution, we are also implementing it in our facilities so that less experienced specialists can freely make decisions and learn from them. Furthermore, we want to minimize subjectivity and apply uniform standards of procedure in all our facilities. By using AI methods in the evaluation of results, we will be able to shorten the waiting time for the result evaluation and thus take action and offer patients the appropriate therapy or treatment as soon as possible.

Methods

We are developing an AI-based system to automatically support objective hearing tests, such as ABR and PTA. As our Center of Hearing and Speech MEDINCUS in Kajetany is one of the largest audiology and ENT centers in Poland, we possess the largest dataset of ABR and PTA recordings, making us uniquely positioned to train robust and effective models. The AI-based system is developed using machine learning techniques. The system is trained on a large dataset of ABR and PTA recordings. The system uses deep learning algorithms to identify patterns and correlations in the data. The system is evaluated using a separate dataset of ABR and PTA recordings. The system performance is compared to the performance of experienced audiologists. This solution is being implemented across our facilities, empowering less experienced specialists to confidently make informed decisions and facilitating continuous learning.

Results

Our goal in implementing this solution is to minimize subjectivity, enforce consistent standards of care across all our locations, and ensure our international branches uphold the same

high level of patient service as our Polish clinics. The results show that the AI-based system is able to accurately detect ABR responses and provide recommendations for hearing aid fitting and treatment. The results also show that the AI-based system is more efficient than experienced audiologists at performing these tasks. Results demonstrated the high accuracy and efficiency of the AI system in the automatic detection of ABR responses and recommendations for hearing aid fitting and treatment based on PTA results. The system achieved accuracy in identifying ABR responses, comparable to the performance of experienced audiologists. Additionally, the system significantly reduced the time required for test results, which translates to faster implementation of appropriate therapy.

Conclusion

Results confirm that the implementation of the AI system contributes to the standardization of audiological procedures across all facilities. The system ensures a consistent and objective approach to the evaluation of test results, which minimizes the risk of errors and improves the quality of patient care. In addition, the system enables easier monitoring and reporting of data, which supports further development and improvement of diagnostic processes. This project has the potential to improve the quality of care for people with hearing loss. The AI-based system can be used to automate objective hearing tests, such as ABR and PTA. This can lead to improved accuracy and efficiency of hearing tests. The AI-based system can also be used to provide recommendations for hearing aid fitting and treatment. This can lead to better outcomes for people with hearing loss. The AI-based system can be used in hospitals and clinics to improve the quality of care for people with hearing loss. The AI-based system can also be used in remote areas where there is a shortage of audiologists.

Conflicts of interest related to this abstract: None

L-4036

Construction and Implementation Effectiveness of "surgery-first, hospitalization-later" process: A Case Study of a Medical Center in Northern Taiwan

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Introduction

Taiwan operates a single-payer system, with the National Health Insurance Administration (NHIA) under the Ministry of Health and Welfare as the governing body, controlling medical expense reimbursement. NHIA categorizes all inpatient cases into Taiwan Diagnosis Related Groups (TwDRG) categories, and some of those TwDRG categories use the Diagnosis Related Groups (DRG) method for medical expense reimbursement. Due to limited annual budgets, hospitals receive payments at a 10% or more discount, making it difficult to offer competitive salaries compared to other health facilities, like cosmetic clinics. This results in staffing shortages in most large-scale hospitals. Additionally, government regulations on nurse-to-patient ratios are strict, forcing hospitals to close beds to comply. Consequently, finding the most efficient use of limited bed resources while maintaining high-quality medical care is the biggest challenge for Taiwanese hospitals nowadays.

Aim/Objective(s)

Reducing hospital stay duration and improving medical efficiency have always been key operational goals for hospitals. In the context of COVID-19, optimizing surgical and hospitalization processes to shorten hospital stays while maintaining medical quality and efficiency has become even more urgent. In response, the case hospital implemented a "surgery-first, hospitalization-later" process in 2023. Patients complete preoperative examinations in advance and are admitted on the scheduled surgery day, undergo surgery first, and then move to the ward. This reduces hospital stay duration, is expected to lower medical costs, and improve efficiency.

Methods

To successfully implement the project, the hospital administration conducted a survey in February 2023, and formed a cross-departmental team in March, including medical departments, medical affairs, surgery, anesthesia, outpatient nursing, medical imaging, and examination units. They selected short-stay DRG surgeries, such as laparoscopic cholecystectomy, for trial. The project steps include constructing a "surgery-first, hospitalization-later" process, developing an "admission dashboard" for pre-admission assessments, and establishing a "surgery-first, hospitalization-later center" for streamlined admission and preoperative evaluations. Adjustments were made in eight different Hospital Information Systems (HIS) for seamless process integration, and forms were revised, including patient education materials like clinical pathways. An independent samples t-test was conducted to examine whether there were significant differences in hospital stay duration and NHI reimbursement profit rates between the two groups using the "surgery-first, hospitalization-later" process. Statistical analysis was performed using R 4.4.1, with a significance level set at $p = 0.05$.

Results

The hospital implemented process in August 2023. As of the end of January 2025, a total of 1,174 people have been admitted using this process. Among these, 820 cases were paid by the NHIA using the DRG method, covering 59 TwDRG categories. To maintain statistical representativeness, 16 TwDRG categories with more than 10 cases were selected from the 820 cases, totaling 693 cases as the experimental group. Additionally, 3,399 cases that did not use this admission process were selected as the control group, categorized by department and TwDRG categories. The average hospital stay of all cases is 2.35 days, with an average medical cost of 45,647 points. For the experimental group, the average hospital stay is 1.36 days, and the average medical cost is 39,548 points. The average profit is 12,639 points, with a profit margin of 31.96%. Comparing experimental group with control group, the average hospital stay decreased by 1.19 days, and the medical cost points per case decreased by 7,342 points, with the profit margin increasing by 15.47%. The differences in both hospital stay and total medical cost points between two groups are statistically significant.

Conclusion

After holding preparatory meetings and simulating the process, a post-surgery hospitalization workflow was developed for relevant departments to follow, successfully applied to patients in need. Through this project, both the average hospital stay and NHI medical points decreased, while the reported profit margin increased. This indicates that the project can efficiently enhance medical services, increase bed turnover rates, and benefit hospital operations. In the future, the process of post-surgery hospitalization will continue to be optimized and expanded to other departments and surgical procedures, with increased monitoring of quality care to achieve a win-win goal for both patients and the hospital.

Conflicts of interest related to this abstract: None

L-4037**The Role of Digimevo Digital Interventions in Smoking Cessation: A Cost-Effective Alternative**

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Introduction

Tobacco use remains one of the leading causes of preventable diseases and deaths worldwide. Digital interventions have significantly improved patient health and clinical care, demonstrating effectiveness in smoking cessation due to their flexibility, accessibility, and potential for personalization. Current evidence suggests that digital tools can serve as a cost-effective alternative to traditional smoking cessation programs, providing scalable and tailored support for individuals seeking to quit smoking. However, despite their proven efficacy, the adoption of digital interventions for smoking cessation remains low in our country. Further efforts are needed to integrate these technologies into public health strategies and clinical practice to maximize their impact on smoking cessation outcomes.

Aim/Objective(s)

To develop an informative and culturally tailored patient journey designed to support smoking cessation and evaluate its effectiveness and efficiency as a digital intervention.

Objectives:

1. To design a patient-centered digital smoking cessation program that aligns with the cultural characteristics and specific needs of our population.
2. To implement this intervention, ensuring accessibility, personalization, and integration with existing healthcare strategies.
3. To assess the effectiveness of the intervention in terms of smoking cessation rates, patient engagement, and adherence.
4. To evaluate the efficiency of the approach by analyzing its cost-effectiveness compared to traditional smoking cessation programs.
5. To identify potential barriers and facilitators for adopting digital interventions in smoking cessation within our healthcare system.

Methods

This study will develop and pilot a culturally tailored digital smoking cessation program for Spanish adults in the action phase of quitting.

A randomized controlled trial (RCT) will be conducted with 220 participants, randomized into:

1. Intervention group ($n = 110$): Using the digital smoking cessation tool.
2. Control group ($n = 110$): Receiving usual care.

The digital program will be designed by a multidisciplinary team, integrating personalized quit plans, behavioral tracking, and motivational support, ensuring cultural adaptation. Primary outcome: Smoking abstinence rates at 3 and 6 months, validated through self-report and biochemical markers. Secondary outcomes: Engagement, adherence, satisfaction, and cost-effectiveness. This study will assess the effectiveness and efficiency of digital interventions in smoking cessation, providing insights into their role in public health strategies.

Results

We anticipate that the digital smoking cessation program will be an effective and cost-efficient tool for Spanish adults in the action phase of quitting. The primary outcome is a higher smoking

abstinence rate in the intervention group compared to the usual care group, measured at 3 and 6 months post-intervention.

Additionally, we expect:

- Higher engagement and adherence among digital intervention users due to personalized support and behavioral tracking.
- Increased patient satisfaction, as digital tools offer flexibility and tailored content.
- Greater cost-effectiveness compared to usual care, reducing the burden on healthcare resources.
- Identification of barriers and facilitators influencing digital tool adoption in smoking cessation.

This study will provide valuable insights into integrating digital interventions into public health strategies, supporting their potential scalability for broader smoking cessation programs. Findings may inform future policy recommendations and the optimization of digital health approaches for tobacco control.

Conclusion

This study aims to evaluate the effectiveness and efficiency of a culturally tailored digital smoking cessation program for Spanish adults in the action phase of quitting. By comparing it to usual care, we expect to demonstrate higher smoking abstinence rates, greater engagement, and improved cost-effectiveness with digital interventions. Our findings will provide key insights into the feasibility of integrating digital health solutions into smoking cessation strategies. The results could support policy recommendations and the scalability of digital interventions as part of comprehensive tobacco control programs. Ultimately, this research underscores the potential of technology-driven approaches to enhance public health efforts in smoking cessation, improving patient outcomes and optimizing healthcare resources.

Conflicts of interest related to this abstract: None

L-4038

FROM PAPER TO DIGITALISATION: NATIONAL DIGITALISATION PROJECT BY THE HIRSLANDEN GROUP WITH THE SIRIS FOUNDATION AND THE UNIVERSITY OF BERN

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Introduction

At Hirslanden Group, implant data was initially recorded manually on paper by surgical nurses, anesthesiologists and doctors, resulting in inefficiencies and a higher risk of errors. Later, the paper form was manually transferred to a web form, resulting in further errors. The project launched by the Hirslanden Group in collaboration with the SIRIS Foundation and SwissRDL has completely digitalised this process. Following a successful pilot project with Hirslanden Bern for SIRIS Hip and Knee, the system has expanded to eight hospitals, with more to follow. The process enables automated transfer of implant data from the respective hospital information system (HIS) via Health Share/SAP to the SIRIS implant server. This saves time – 7½ minutes per case – and improves data quality. Interface programming revealed processes that were hindering smooth digitalisation. The envisaged solution can be used by all service providers independently of the hospital information system, making it useful throughout Switzerland.

Aim/Objective(s)

The aim of the digitalisation initiative of the Hirslanden Group, together with the SIRIS Foundation and SwissRDL at the University of Bern, is to minimise transmission errors in implant data,

optimise the digital workflow for data entry and thus significantly reduce staff workload. This will lead to improved data quality and increased efficiency. Another aim is that this digitalisation initiative will provide a standardised solution that can be used by all service providers across Switzerland independently of the hospital information system.

Methods

A pilot project at Hirslanden Bern is implementing a digital interface between the hospital information system (HIS) and the Swiss implant registry SIRIS. Digital transmission begins patient's consent. The case is then opened in the SIRIS implant registry via a web service. Most data is transmitted automatically, except for clinical data (around 10–15 variables). The doctor records these details after surgery. Since the implants are not known until the surgery is underway, they still have to be scanned and transferred to the registry. The digital process recognises which operation is being performed (hip primary, hip revision, knee primary, knee revision, etc.). This method replaces error-prone and time-consuming manual data entry with automated transmission, which reduces staff workload and increases data validity. So far, the method has been implemented at eight Hirslanden Group hospitals, enabling the impact of digital workflow optimisation on data quality and administrative workload to be investigated.

Results

The following challenges arose during implementation, making complete automation difficult:

- Patient consent as a workflow trigger: Patient consent is crucial for automatic data transmission but often unavailable digitally, delaying automation. Obtaining, documenting and verifying consent entails an enormous amount of administrative work, particularly for a partner doctor system such as the Hirslanden Group.
- Unstructured clinical data: Clinical data is unstructured and must be extracted from free-text reports, making automation difficult and leading to inconsistencies in the SIRIS registry. SwissRDL and the Hirslanden Group are exploring an offline app for structured data collection.
- Cement data: The current web service follows a paper-based system that cannot be transposed directly to the digital workflow. This led to a workaround so that the cement data could also be digitally recorded.
- Manual intermediate entry and duplicate entries: When automation failed, implant data was recorded manually, causing duplicates that required effort to remove. Data managers identified and reported cases to SwissRDL, which manually deleted them.
- Missing or incorrect CHOP code: Accurate recording of CHOP codes, which classify surgical and invasive medical interventions in Switzerland, is crucial for triggering the digital SIRIS process. Errors or omissions disrupt automation, requiring manual corrections.

Conclusion

The digital transmission of implant data is an important step towards increasing efficiency and reducing errors. It was only through the collaboration between the Hirslanden Group, the SIRIS Foundation and SwissRDL at the University of Bern that solutions could be devised, further developments initiated and a basis created that enables all hospitals throughout Switzerland to transmit data automatically if they have the interface. As a result of this collaboration, the SIRIS Foundation and its contractor SwissRDL had a better understanding of the challenges facing the service providers – in this case the Hirslanden Group. Together, we can continue to work on solutions that enable digitalisation across Switzerland.

However, analysis of the challenges shows that structural adjustments to existing processes are necessary. In particular,

standardisation of patient consent, better structuring of clinical data, adaptation of the form system in the web service and measures to improve internal CHOP code capture are necessary to ensure fully automated and error-free data transmission.

Conflicts of interest related to this abstract: None

L-4039

Incorporating tele-medicine into pulmonary rehabilitation (Tele-PR) optimized service utilization and clinical outcomes

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Introduction

The benefits of pulmonary rehabilitation (PR) for patients having various kinds of chronic respiratory diseases (CRD) like asthma, chronic obstructive pulmonary diseases, and bronchiectasis are well documented. Our department inaugurated a multi-disciplinary pulmonary rehabilitation program for these patients since 1992. Despite strong recommendation by international guidelines on referring CRD patients for PR, poor uptake, high default rate and low PR completion rate (50-60% only), mostly related to transport issues, hindered its benefit. Many PR centers over the world face similar problem. With the advance in medical technology, some of them incorporated tele-medicine into their conventional PR program to overcome these problems successfully. Such development in our unit is catalyzed by COVID-19 pandemics, during which all PR service in public hospital has to be suspended in HK due to infection control concerns. Incorporating tele-medicine into our PR program could be a solution to expand our service scope thus benefiting more patients.

Aim/Objective(s)

To explore a suitable tele-PR model in Hong Kong and to assess its benefits for patients with chronic respiratory diseases

Methods

Our home-based supervised tele-PR was delivered in 14 sessions, once weekly for three months through video-conferencing by a multidisciplinary PR team, including respiratory physicians, nurse, physiotherapist (PT), and occupational therapist (OT). Each session lasted for 3 hours and contained all essential components in conventional PR: doctors optimized patient's

clinical condition; nurses provided patient education and empowerment; PT offered exercise training; OT educate patients on various technique to live well with the disease including Qigong. To assess patients' outcomes, their lung function, exercise capacity (by 6-minute walking test, 6MWT), muscle strength (quadriceps and handgrip), and health-related quality of life (by chronic respiratory questionnaire, CRQ, St George's respiratory questionnaire, SGRQ, and shortness of breath questionnaire, SOBQ) were compared before and after tele-PR. PR completion rate was defined by attending $\geq 50\%$ of 14 sessions and post-PR assessment. All patients would complete a patient satisfaction survey to provide feedback at the end of tele-PR.

Results

From July 2021 to January 2025, 21 patients were recruited. Their mean (SD) age was 72(11). Fourteen of them were male. Nearly half of them were ex-smoker. All of them suffered from different kinds of CRD (chronic obstructive pulmonary disease: 9; asthma: 4; bronchiectasis: 3; interstitial lung disease: 5). Their mean(SD) FEV1 and FVC were 1.29(0.51) and 2.16(0.86) respectively. Among them, only two patients failed to complete tele-PR due to their underlying other medical problem (completion rate: 90.5%). Others completed the program with 100% attendance rates. Participants demonstrated significant improvement in 6MWT, quadriceps and handgrip strength, CRQ total, SGRQ total, and SOBQ after tele-PR (Table 1) suggesting improved exercise capacity, muscle strength, health-related quality of life, and their overall functioning after tele-PR ($p < 0.05$). The high completion and attendance rates suggested that such tele-PR model was feasible in public hospital setting in Hong Kong. No adverse event was reported. Encouraging patient feedback has been received. Major barrier to uptake were no internet access at home and impacts from COVID-19 pandemics, while age is not a boundary to tele-PR access.

Conclusion

The results of our new tele-PR program demonstrated that incorporating innovative technology into conventional PR could help overcoming its traditional barrier that limited the accessibility of CRD patients of all ages to PR, while the benefits of conventional PR could be maintained. The success of the program came from the concerted effort from multi-disciplinary team and their dedication in patient service enhancement through service transformation. Sustainable funding and continuous IT support to enhance tele-PR should be explored to make it more easily accessible and further expand its scope to benefit more CRD patients in Hong Kong. In fact, this three-month tele-PR model was not only feasible and effective to be adopted in public hospitals in Hong Kong, but also in other PR centers over the world that face similar recruitment problem. We hope that our tele-PR model could be promulgated across the globe to enhance provision of PR service to all eligible CRD patients.

Conflicts of interest related to this abstract: None

Table 1. Response to pulmonary tele-rehabilitation (Tele-PRP) for patients having chronic respiratory diseases.

	Baseline characteristics (n=21)	Response to PR (n=19)	*p-value
Age (years)	72 (11)	---	---
Gender (Male)	14	---	---
Non-smoker	10	---	---
Diagnosis		---	---
COPD	9		
Asthma	4		
Bronchiectasis	3		
ILD	5		
FEV ₁ /FVC (%)	61.9 (16.2)	---	
FEV ₁ % predicted	62.0 (17.9)	3.7 (-7.9 to 0.45)	0.077
FVC % predicted	73.7 (17.7)	5.0 (-10.7 to 0.7)	0.081
6MWT(m)	280 (140)	55 (20 to 90)	0.005
Handgrip (kg)			
Left	19.5 (7.0)	3.7 (1.6 to 5.9)	0.002
Right	19.2 (7.1)	3.6 (1.8 to 5.4)	0.001
Quadriceps strength (kg)			
Left	13.1 (3.6)	4.5 (2.2 to 6.8)	0.001
Right	19.2 (7.1)	6.0 (3.7 to 8.3)	<0.005
CRQ-Total	20.7 (3.4)	2.4 (0.2 to 4.7)	0.038
SGRQ-Total	48.2 (21.1)	-15.7 (-24.8 to -6.6)	0.002
SOBQ	37.1 (23.9)	-8.8 (-15.2 to -2.4)	0.010

Data reported as mean (standard deviation) for “baseline characteristics”, and mean change (95% CI) for “response to PR” unless stated otherwise.

*p-value <0.05 was considered statistically significant.

COPD, chronic obstructive lung disease; ILD, Interstitial lung disease; FEV₁, Forced expiratory volume in one second; FVC, forced vital capacity; 6MWT, 6-minute walking test; CRQ, chronic respiratory questionnaire; SGRQ, St George’s respiratory questionnaire; SOBQ, shortness of breath questionnaire; CI, confidence interval.

L-4040

Unveiling Sepsis Phenotypes through Machine Learning: Creating a Digital Twin for Personalized Therapy

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Introduction

Sepsis remains a significant global health challenge, characterized by unacceptably high morbidity and mortality rates. Current treatments focus primarily on managing the underlying infection and providing supportive care, while therapies that specifically target the molecular mechanisms of sepsis are yet to be established. Recent advances in artificial intelligence (AI) hold promise for uncovering hidden clinical and molecular patterns, potentially enabling more precise, individualized treatment strategies. A key concept in this context is the “digital sepsis twin,” a virtual model that can simulate disease trajectories for each patient. By leveraging real-world data and machine learning (ML) approaches, this digital twin could facilitate personalized therapy by predicting outcomes of various interventions before they are performed. This study aimed to identify robust, data-driven sepsis phenotypes as a foundational step toward creating a digital twin ecosystem for the management of sepsis.

Aim/Objective(s)

Our primary objective was to use unsupervised ML methods to identify distinct clinical phenotypes in a prospective, multicenter cohort of patients with sepsis. We then aimed to characterize these phenotypes by analyzing their plasma proteomic profiles, thereby revealing potential molecular pathways and biomarkers that underpin each subgroup. By integrating clinical and proteomic features, we sought to establish a basis for developing supervised ML classifiers capable of accurately predicting patient cluster membership. Ultimately, these data-driven insights are intended to feed into a digital sepsis twin framework, enabling the simulation of personalized therapeutic interventions. Through this work, we hope to advance the prospect of in silico modeling, where refined treatment strategies can be tested virtually, thus paving the way for more targeted and effective sepsis therapies.

Methods

We conducted a prospective, multicenter, observational study of 384 adult sepsis patients, collecting routine clinical data and blood samples. Using the k-means algorithm, we performed unsupervised clustering on clinical parameters, including laboratory measurements and organ function scores, to identify distinct clinical phenotypes. Plasma proteomic profiles were obtained from 276 participants using liquid chromatography-coupled tandem mass spectrometry (LC-MS/MS). The resulting proteomic data were analyzed in the context of the previously identified clusters, and supervised ML models were developed to predict cluster membership and determine key discriminatory features. Finally, we conceptualized integrating these findings into a digital sepsis twin platform, aiming to enable real-time simulations of individualized disease progression and response to therapeutic interventions.

Results

Three clinically distinct sepsis phenotypes emerged from unsupervised clustering. Cluster A exhibited milder disease with minimal organ dysfunction. Cluster B showed moderate severity marked by renal impairment and a mortality rate of 45%. Cluster C demonstrated the highest severity, with pronounced multi-organ failure – particularly liver dysfunction – and a mortality rate of 92%. Plasma proteomic analyses revealed excessive consumption of complement and coagulation factors in the more severe clusters, offering deeper insights into their underlying molecular disruptions. Supervised ML models accurately classified patients into clusters and identified key clinical and proteomic markers driving these phenotypic differences. Furthermore, a first prototype of a Digital Sepsis Twin was developed in the form of an avatar, integrating cluster-specific findings to simulate individualized disease trajectories. This prototype will be refined and expanded through ongoing research, aiming to enhance predictive power and ultimately support personalized therapeutic decision-making.

Conclusion

This machine learning-based approach successfully delineated distinct sepsis phenotypes and correlated them with specific proteomic profiles, providing novel insights into sepsis pathophysiology. The pronounced consumption of complement and coagulation factors in severe phenotypes underscores potential molecular targets for more focused interventions. By integrating these phenotypic data with real-time analytics, our initial Digital Sepsis Twin prototype provides a platform for simulating patient-specific disease courses and refining personalized treatment strategies prior to clinical application. This emerging paradigm in digital medicine demonstrates the potential of data-driven avatars to inform proactive sepsis management. Nevertheless, widespread clinical deployment of the Digital Sepsis Twin requires robust validation, multi-center trials, and strict adherence to regulatory standards. A formal medical device certification will be essential for ensuring safety, quality, and trust in routine clinical use. Ultimately, this integrated approach may pave the way for personalized treatments that reduce the devastating global impact of sepsis.

Conflicts of interest related to this abstract: None

TRACK 5: THE HUMAN-CENTRED EXPERIENCE – CORE TO ALL WE DO: EMPOWERING PATIENTS AND FAMILIES THROUGH COMMUNICATION, CULTURE, AND CARE PATHWAYS

L-5001

Bridging Cultural Differences in Healthcare: Early Insights from KMC's Cross-Cultural Training Program

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Introduction

Cultural differences in healthcare settings can create challenges for both medical professionals and patients, particularly in a hospital like KMC, where Korean and Middle Eastern medical systems and expectations differ significantly. Korean physicians found it difficult to fully understand local patient expectations, including a preference for non-invasive treatments, longer consultation times (averaging over 20 minutes compared to Korea's standard 5-minute consultations), and different medical terminologies that led to misunderstandings. Additionally, disparities in hospital hierarchy and documentation responsibilities required careful negotiation to align practices across different cultural and professional backgrounds. This study examines the challenges encountered at KMC and the strategies implemented to facilitate cross-cultural adaptation among healthcare providers and administrative staff.

Aim/Objective(s)

1. Identify key cultural and operational differences between Korean and Middle Eastern medical practices.
2. Develop a structured training program to help Korean physicians and healthcare staff adapt to local expectations.
3. Enhance patient satisfaction by reducing misunderstandings related to communication and medical decision-making.
4. Standardize hospital workflows to address variations in documentation responsibilities, administrative tasks, and interprofessional collaboration.
5. Evaluate the effectiveness of cross-cultural training in improving inter-staff communication and operational efficiency.

Methods

- Comprehensive orientation sessions for Korean physicians and staff, covering local medical regulations, cultural expectations, and communication strategies.
- Regular EMR and healthcare system training to familiarize Korean staff with government-mandated sick leave documentation, controlled medication registration, and local insurance policies.
- One-on-one mentorship programs, assigning experienced local staff to new Korean medical professionals to provide ongoing guidance in medical practice adaptation.
- Interprofessional workflow meetings to define roles and responsibilities for documentation, order entry, and scoring processes, ensuring clarity in task delegation between physicians, nurses, and administrative personnel.
- Mandatory small-group training sessions held at least twice per week outside of regular working hours, addressing specific challenges and real-case scenarios to reinforce learning.
- Educational materials such as pamphlets detailing hospital dress codes, religious considerations, dietary preferences, and common cultural misunderstandings.

Results

- Incident reports reduction: Cultural misunderstandings initially led to approximately 200 incident reports per month, including miscommunication between staff, documentation errors, and patient dissatisfaction. After six months of structured training, this number decreased to fewer than 40 per month.
- Improved physician adaptation: In a post-training survey, 88% of Korean physicians reported a better understanding of local medical terminology, patient expectations, and cultural considerations, compared to 47% at baseline.
- Enhanced inter-staff collaboration: After workflow discussions and structured training, interdepartmental disputes related to documentation responsibilities decreased by 63%, and the number of reported administrative errors dropped by 42%.

- Greater patient satisfaction: Patients' satisfaction scores related to physician communication improved from 3.8 to 4.6 out of 5 after training implementation. Additionally, 92% of patients surveyed stated that they felt their medical concerns were better understood by Korean physicians after the training.
- Streamlined medical documentation: The introduction of structured mentorship and real-time feedback from the Medical Records Office improved documentation accuracy, reducing required corrections by 55% over six months.
- Increased engagement in cultural training: Participation in cross-cultural workshops reached 90%, with 82% of attendees reporting that the training significantly improved their ability to work in a multicultural setting.

Conclusion

KMC's cross-cultural training program has been instrumental in bridging the gap between Korean and Middle Eastern healthcare practices. By implementing structured orientation programs, ongoing mentorship, and mandatory training sessions, the hospital has significantly improved physician adaptation, inter-staff collaboration, and patient satisfaction. Challenges such as differences in medical decision-making, documentation responsibilities, and workflow structures required continuous adjustment and negotiation. However, the proactive approach taken by KMC has ensured that both Korean and local staff can work cohesively in a culturally diverse medical setting. Moving forward, additional research will focus on long-term retention of training outcomes and the potential expansion of this model to other international healthcare institutions facing similar cultural integration challenges.

Conflicts of interest related to this abstract: None

L-5002

Development of Parents Skills Training for Children with Developmental Delays: A Collaborative Approach to Occupational Therapy Management.

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Introduction

In the Philippines, there is a shortage of practicing occupational therapists (OT) with 1 OT for every 20,000-30,000 stakeholders. Of the 3,253 licensed therapists, 317 are working in public hospitals catering to indigent patients and stakeholders with limited to no access to OT. With 4 OTs in MMMH&MC, the waiting period for an OT slot is 8–12 months, depending on the number of discharged patients with improved status. With the referral overflow in 2021, 70 patients received therapy of 16 sessions per treatment cycle in 2022, with 110 on the waiting list. Innovative measures were implemented to improve outcomes for early discharge, and with more referrals coming in, OT conceptualized the "Parents Skills Training for Children with Developmental Delays" (PSTCDD), to empower parents as collaborators of therapy. Using the "pyramid of learning" framework and data of the pilot run in 2022, OT polished 4 learning modules for PSTCDD.

Aim/Objective(s)

The "Parents Skills Training for Children with Developmental Delays" was conceptualized and pilot tested in 2022, with the aim of training parents or their primary caregivers to do simple interventions at home while waiting for an occupational therapy slot in the hospital. With the feedback and data gathered from its pilot run in 2022, 4 training modules were used for training

in 2023-2024, from 1 module in 2022. The primary objective is to empower parents to become collaborators of therapy, to hone their skills in providing daily therapeutic interventions at home with minimal to no supervision. Secondary objective is to improve functional outcomes among enrolled patients with trained parents, with measurable indicators such as early discharge given "improved status", or earlier transition to higher OT program.

Methods

The training has 3 phases. Parents have to sign informed consent and waiver of liability to protect end users and training providers. First phase is onsite using four modules covered in 4 different sessions. Each session lasted 3-4 hours with parents grouped to encourage interaction, and paired for return demonstration. Assessment of learning includes (1) pre and post tests, (2) return demonstration, and (3) group output. A 5-point Likert Scale was used to measure the efficacy PSTCDD and excel sheet to tabulate results. Second phase is 8 onsite where group of parents apply learned techniques to their children. Therapists assess skill and provide immediate feedback while encouraging them to share experiences. The third phase is 8 virtual observations of parents at home through the OT telehealth virtual platform. Patient's progress report (google forms) were used to measure functional outcomes, and focus group discussions to continuously monitor and validate their progress.

Results

From the time of its official launching in 2023, 137 parents received PSTCDD. The average rate of the PSTCDD using 4 modules in May-June 2023, May-June 2024 and November-December 2024, was noted at 4.7 out of 5 (objectives 40%, trainers 40%, venue 20%), in which parents "agree" that the PSTCDD empower them to apply therapeutic interventions and collaborate therapy. Parents "agree" that the learning objectives were met at 4.7; "agree" on the competencies of OTs in honing their skills at 4.6; and the "agree" on adequacy of training venue and materials at 4.6. As to the progress of patients whose parents enrolled in PSTCDD, 89% of patients were noted with improved status (2022-2023), in comparison to 42% progress of patients whose parents did not undergo PSTCDD in 2021. With continuous improvement of the PSTCDD, 92% of patients were noted with improved status in 2023-2024, with patients receiving lesser treatment sessions, averaging 12 sessions/treatment cycle in 2023-2024, in comparison to 16 sessions/treatment cycle in 2022. Through the PSTCDD, parents also were able to maximize online platforms for virtual therapy with co-parents, preparing them for full online therapy or correspondences, should circumstances limit onsite therapy.

Conclusion

In the pursuit of increasing service coverage in the Northern area of the Philippines, the occupational therapists of the MMMH&MC have creatively innovated its approach amid scarcity of resources. The PSTCDD with its 4 modules, platform and assessment tools, is an effective medium, to empower parents and improve their capacity as collaborators of therapy. PSTCDD has proven that amid scarcity of occupational therapists, it is possible to widen service coverage with parents and primary caregivers as effective tool in implementing and collaborating OT interventions for children diagnosed with developmental delays or associated delays brought by experiences of the pandemic. The "Parents Skills Training for Children with Developmental Delays" is indeed one of its kind in widening service coverage and embracing the role of parents and caregivers in managing children diagnosed with developmental delays in the Northern Region of the Philippines. Through the PSTCDD, occupational therapists have greatly contributed to the vision of MMMH&MC to become a premier center of advanced healthcare, and provision of equitable and cost efficient

services, that are responsive to the needs of the stakeholders in Northern Philippines.

Conflicts of interest related to this abstract: None

L-5003

Enhancing patient partnership in a Comprehensive Cancer Center: the model of the Henri Becquerel Center

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Introduction

For decades, patients have always been at the center for healthcare professionals and managers, who improve consistently to require their needs, without asking them what they think, what they want, what they expect, without giving them the right to speak and giving them the opportunity of a real co-construction. The truth is that the health sector is lagging behind other sectors such as industry, transport, sport... where customer services, and customer experience, are major stakes for years to improve and, of course, grow business. So we had to change the way we think and the way we work, by including patient's points of view to a greater extent and making them our partners. That is why we created the "Becquerel-LAB", a group of patient-partners in 2018, and then a governance body, called the "Office of the Patient Experience", in 2021. Two useful bodies for enhancing patient experience and patient partnership.

Aim/Objective(s)

Cancer care implies a holistic approach of the patient with innovations such as multidisciplinary meetings, supportive care or patient partnership. Nowadays, medicine cures, but also tries to prevent, improve the quality of life, adapt itself to the individual, predict the evolution of the disease, and put the patient at the center. So we can't talk about "Medicine of the Future" if we don't care about Patient Experience.

The objectives of our 2 devices:

- To take better into account the patients' points of view;
- To enhance the patient partnership within the hospital and improve the services provided;
- To demonstrate the commitment of the managers and the institution, in order to facilitate the implementation of actions using all available internal resources;
- To monitor the progress of Patient Experience projects and respond to proposals/solicitations from professionals/patients/companies;
- To contribute to the Centre's influence in the field of patient partnerships.

Methods

First step: to hire Emmanuelle Hoche, consultant in human resources, former patient and former caregiver. Her first mission: to recruit a group of 10 volunteers, former patients/caregivers in our hospital, representing a diversity of people and pathologies, and eager to improve our services by taking part in projects with healthcare professionals. Then to coordinate the actions of the "Becquerel Lab". At the same time, she had to establish a culture of patient partnership and contribute to build the Patient Experience strategy. Second step: to set up a specific body, called "Office of Patient Experience", which is an integral part of our institution's governance. The main purpose of this device is to involve the management team, the medical board and the board of nursing, in order to ensure that we give us sufficient means to fulfill our goals, so that we can make happen patient experience guidance through concrete actions.

Results

Many projects are currently underway – some smalls, some bigs. Regarding the "Becquerel Lab", patient-partners are involved in:

- The process of the construction of our new hospital. Patient-partners have the opportunity to give their opinion at every stage of the process, including working with a polysensorial designer.
- Different working groups such as disability committee, culture committee, HAS / OECI / WELL certifications... Besides, our new hospital could be the first in France (perhaps in Europe), to achieve the WELL building certification process.
- Training courses for healthcare professionals on subjects such as sexual health or haemotransplantation, etc.
- Strategic considerations, such as taking into account the relationship between doctor and patient, in the event of early access to patient records.
- Co-construction of communication tools, such as a liaison document to ensure a safe return home after outpatient breast surgery.
- A survey on the perception of comfort by healthcare professionals and patients.

Regarding the "Office of the Patient Experience", we can notice, for example:

- The choice of an AI-based verbatim analysis tool for satisfaction questionnaires.
- The experiment of a tactile orientation system for blind people.
- Discussion of the users' project in conjunction with the users' commission, responsible for defending patients and caregivers' rights.

Conclusion

"Medicine of the Future", with the new concept of 5P Medicine (Personalized, Predictive, Preventive, Participatory and Populational) would not be completed without making happen the patient partnership. Two worlds meet, without speaking the same language, without having the same codes, nor sometimes having the same point of view regarding the care. But fortunately, patients and healthcare professionals have a same goal and a common value: life and human. Although patient partnership is a cultural (r)evolution for the healthcare system, the model of the CHB shows that the collective intelligence makes it possible, even it may take quite a long time. The two devices presented can be considered as accelerators to enhance patient partnership but also tools of innovation and creativity for the experience of the patients as well as for the healthcare professionals. Improving their quality of life at work, giving meaning back to their profession, helping them to preserve their values are all benefits expected from the patient partnership, which can therefore be a means of enhancing the attractiveness of the hospital. United we stand, divided we fall... So true for the healthcare system...

Conflicts of interest related to this abstract: None

L-5004

Four-Legged Friends: Humanizing Hospital Care Through the Human-Animal Bond

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Introduction

The hospital environment significantly impacts patients' emotional and mental health. Studies show that prolonged hospitalization can lead to anxiety, depression, and feelings of isolation (Chur-Hansen et al., 2014). In response, FSFB implemented

"Four-Legged Friends," an innovative program allowing hospitalized patients to receive visits from their pets. Based on growing evidence of the therapeutic benefits of human-animal interactions (Marcus, 2013), this initiative enhances patient experience, strengthens doctor-patient relationships, and fosters a warm and compassionate hospital environment. By integrating emotional support into medical care, the program aligns with modern approaches to holistic and humanized healthcare.

Aim/Objective(s)

The primary goal of "Four-Legged Friends" is to humanize hospital care by integrating the human-animal bond as a therapeutic mechanism. The program aims to:

- Improve patients' emotional well-being by reducing stress, anxiety, and isolation.
- Create a more welcoming hospital environment that encourages positive interactions between patients, caregivers, and medical staff.
- Strengthen doctor-patient relationships, fostering deeper and more meaningful conversations about patient well-being.
- Ensure the safety of all participants by implementing strict biosecurity and animal welfare protocols.
- Position FSFB as a leader in hospital humanization, promoting this model for adoption by other healthcare institutions.

This innovative approach responds to the need to incorporate psychosocial aspects into hospital care, aligning with person-centered care models (McCormack & McCance, 2006). It acknowledges the profound impact that emotional support and companionship have on patient recovery and overall well-being.

Methods

The "Four-Legged Friends" program was designed in collaboration with healthcare professionals, animal welfare experts, and epidemiologists. Its implementation required: Institutional and ministerial approval: Validation by the Colombian Ministry of Health and the hospital's Infection Control Committee. – Biosecurity protocols: Hygiene and vaccination verification for pets, medical authorization, and supervised visit protocols. – Interdisciplinary coordination: Collaboration between social work, nursing, psycho-pedagogy, security, and epidemiology teams. – Impact evaluation: Patient satisfaction measured through Net Promoter Score (NPS) and Customer Satisfaction Score (CSAT). The program is available to all hospitalized patients, including those in pediatric and adult intensive care units, as well as end-of-life and palliative care patients. Research supports that animal-assisted therapy reduces cortisol and increases oxytocin levels in hospitalized patients, enhancing emotional well-being (Beetz et al., 2012).

Results

Since its launch in 2017, "Four-Legged Friends" has shown a significant positive impact on patient experience. Key outcomes include:

- Emotional well-being: Patients report reduced stress and anxiety following pet visits.
- High acceptance rates: 100% NPS and 100% CSAT, exceeding hospital satisfaction benchmarks.
- Program reach: Over 200 pets, including dogs and cats, have visited patients, providing documented emotional benefits.
- Enhanced doctor-patient relationships: Medical staff report improved patient interactions and increased trust following pet visits.

Patient testimonials highlight the program's profound impact:

- "My dog's visit gave me strength in my recovery."
- "My husband was calmer and happier after seeing our pet."

- "We were thrilled when we found out about this program – our pet's visit made a huge difference."
- These findings align with studies demonstrating that animal-assisted therapy enhances emotional and physiological responses in hospitalized patients (Barker et al., 2016). The overwhelmingly positive feedback confirms the program's role in transforming hospital care.

Conclusion

The "Four-Legged Friends" program is an innovative and replicable model that demonstrates how integrating the human-animal bond can transform hospital experiences. Its impact on stress reduction, doctor-patient relationships, and emotional well-being positions it as a leading strategy for humanizing healthcare. FSFB has pioneered this initiative in Latin America, receiving national and international recognition. The program has also contributed to improving clinical and operational outcomes by enhancing the patient experience. The presence of pets in the hospital setting has been shown to reduce anxiety and stress, positively influencing recovery. Additionally, its structured implementation follows strict biosafety protocols, ensuring a safe and controlled environment for patients, families, and medical staff. We invite other healthcare institutions to adopt this model, leveraging the growing scientific evidence supporting the therapeutic benefits of companion animals in hospital settings (Gee et al., 2017). "Four-Legged Friends" is not just an innovation in hospital care; it redefines person-centered healthcare, proving that healing extends beyond medicine – it is found in love, companionship, and the unbreakable bond between humans and animals.

Conflicts of interest related to this abstract: Ninguno

L-5005

Key Words in Key Moments: A Practical Guide to Empathetic and Effective Communication between Healthcare Professionals and Patients

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Introduction

Improving patient experience has become one of the three key pillars of healthcare quality over the past decade, alongside clinical efficiency and safety. To support FAMT's transformation into a people-centred organization, the Patient and Family Care Department conducted two surveys: one to identify the aspects of patient experience most valued by patients (n = 792), and another to assess healthcare professionals' perception of the organization's patient-centred approach (n = 1,165). The correlation between both surveys highlighted the need to enhance communication and interpersonal skills at key touchpoints within care pathways. Based on these findings, FAMT developed a reference and consultation guide for healthcare professionals. This guide provides key phrases, concepts and communication strategies to improve patient and family experience at critical moments throughout the healthcare journey.

Aim/Objective(s)

The main objective of the Guide is to serve as a practical reference tool for healthcare professionals, enabling them to:

- Enhance communication with patients at key points of expectation management across all healthcare circuits
- Facilitate efficient, bidirectional and equitable exchanges of information, empowering patients in their health decision making
- Apply communication skills, empathy, respect and active listening to strengthen the patient-professional relationship

- Reduce patient anxiety and provide reassurance that they are receiving high-quality care
- Align healthcare professionals with patients' unmet needs
- Foster and promote an organizational culture centred on the needs of patients and their families
- Improve health outcomes by increasing treatment adherence and reducing hospital readmissions

Methods

The project was carried out in the following phases:

- Literature review: Examined evidence on the correlation between improved communication skills and health outcomes
- Contextual observation: Conducted a four-week assessment across all FAMT care circuits including emergency services, hospitalization, operating rooms, outpatient consultations, primary care, mental health care and intermediate care
- Interviews and shadowing: Engaged with over 100 professionals across various care roles in admission areas, waiting rooms, outpatient services, day treatment hospitals, examination rooms, imaging centres, rehabilitation and sports therapy area, inpatient floors, ICU and operating rooms
- Systematization of key language: Identified and categorized essential phrases for effective communication at critical moments throughout the patient journey
- Development of the Key Words at Key Moments Guide: Compiled findings into a structured reference tool for professionals
- Review and consensus: The first draft was reviewed and validated by 51 professionals across medical, nursing and the administrative teams

Results

1. Development of 47 key moment cards focused on patient-professional interactions, organized into 11 thematic areas: first impressions and greetings, patient listening, diagnosis and treatment proposals, addressing patient concerns, recovery services, surgery care, diagnostic tests, etc.
2. Each card includes key communication recommendations for both patients and healthcare professionals in specific situations, a section dedicated to main challenges and another detailing the aspects that can make a significant difference in the interaction.
3. Creation of the SEEDA Model, patient communication framework for FAMT, which outlines a methodology to systematize efficient and empathetic conversations in all interactions between professionals, patients and families, across all healthcare circuits within the organization
4. Design and layout of the final 120-page guide
5. Design of an online platform where professionals can access and download the contents of the guide
6. Video content production of guide contents featuring the participation of various healthcare professionals in different roles
7. Development of a training program based on role-play techniques, specializing in communication across different healthcare settings including the ER, operating rooms, imaging centres and the medical offices among others.
8. Implementation of a dissemination plan targeting 3,200 professionals leveraging the training program and online content from the Guide

Conclusion

The project, which is currently in the process of being disseminated, has initiated a transformative journey within the organization, focusing on cultivating a culture centred around patient experience. The starting point for this transversal project- set to span more than three years- was a patient-centred survey, with over 1,100 professionals participating, alongside a survey where more than 790 shared their perspectives on the aspects

of the experience they valued most. The result has been a practical tool for healthcare professionals who interact with patients daily. This tool aims to enhance communication skills across various areas and healthcare circuits. The process of developing the tool, based on interviews and shadowing with more than 100 professionals, as well as the final content review by a multidisciplinary team of 50 professionals, has led to the creation of practical, contextualized and entirely in-house branded material. In conclusion, this project not only provides a tool to improve communication skills with patients, but also facilitates the dissemination of a patient experience culture within FAMT.

Conflicts of interest related to this abstract: None

L-5006

Turning Time into Hope: Advancing Cancer Care Excellence

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Introduction

Al Hada Armed Forces Hospital, a leading tertiary care institution in Taif, Saudi Arabia, serving the Saudi Armed Forces, faced a critical challenge in oncology care: delays in diagnosis and treatment. This fragmentation of care, leading to extended treatment intervals, negatively impacted patient outcomes and overall well-being. The hospital's existing multidisciplinary team approach, while a cornerstone of care, was not fully addressing the diverse needs of all oncology patients, particularly in a high-volume setting. This situation underscored the need for a more comprehensive and efficient system to improve the cancer care continuum.

Aim/Objective(s)

The primary aim of the project, is to enhance the efficiency of oncology patient care at Al Hada Armed Forces Hospital. This is achieved by reducing the time from abnormal diagnostic results to treatment initiation, which is targeted to decrease from 114 days to 65 days by the end of August 2024. Additionally, the project aims to evaluate the impact of these interventions on patient quality of life and satisfaction. The research seeks to improve the overall delivery of cancer care by streamlining processes, optimizing healthcare resources, and ultimately enhancing patient outcomes.

Methods

The research employed a mixed-methods approach combining timeline mapping with cancer care road maps and a quasi-experimental pre- and post-evaluation design. The study included 77 participants, representing approximately 10% of the total population of patients with breast, thyroid and colon cancer. Data was collected through patient reports, hospital information system records, and observations by case managers. The FACT-G7 questionnaire was used to measure quality of life, while patient satisfaction surveys were conducted. Data analysis involved line charts, bar graphs, and trend lines to illustrate changes over time and assess the impact of the interventions.

Results

The intervention at our institution yielded significant improvements in various key performance indicators, demonstrating the effectiveness of the multidisciplinary team approach and case management strategies.

Key Findings:

- Total Treatment Interval: The total treatment interval, from abnormal diagnosis to treatment initiation, decreased significantly from an average of 114.3 days to 59.6 days, achieving the target of 65 days by August 2024. This was

achieved through timeline mapping and a quasi-experimental pre- and post-evaluation design, highlighting the impact of the intervention on streamlining the patient journey.

- Patient Satisfaction: Patient satisfaction scores increased dramatically from 46% to 95%, demonstrating the positive impact of the interventions on patient experience and care.
- Quality of Life: The average FACT-G7 score for quality of life improved from 13.1 to 25.2 after 90 days, indicating the positive impact of the interventions on patient well-being and functional ability.
- Cost Savings: The intervention resulted in an estimated \$10,918,600 in total economic impact, achieved through reduced hospital bed utilization, fewer complications and readmissions, and increased patient productivity.

These findings, supported by data collected through patient reports, hospital information system records, and observations, demonstrate the effectiveness of the implemented strategies in improving patient outcomes, streamlining processes, and generating significant cost savings.

Conclusion

The study describes the successful implementation of a comprehensive case management program at Al Hada Armed Forces Hospital in Taif, Saudi Arabia, addressing delays in cancer diagnosis and treatment. The hospital faced significant

challenges, which negatively impacted patient outcomes. The study demonstrates that a multidisciplinary team approach, nurse-led case management, and data-driven strategies effectively overcame these obstacles. This research provides a model for improving cancer care, advocating for the adoption of similar case management programs in other healthcare systems. It highlights key factors for success:

- Multidisciplinary Teamwork: Collaboration among physicians, nurses, and other healthcare professionals is essential for comprehensive care.
- Patient Navigation: Patient navigators play a crucial role in offering personalized support and facilitating access to care.
- Data-Driven Improvement: Using data to evaluate and refine interventions ensures continuous quality enhancement.

The study contributes to health service improvement, policy, practice, and research. It calls for policies that integrate case management into healthcare systems, the development of training programs for professionals, and further studies on the long-term effectiveness of these programs. By implementing these recommendations, healthcare systems can improve cancer care and ensure patients receive optimal support and treatment.

Conflicts of interest related to this abstract: NONE

TRACK 5: THE HUMAN-CENTRED EXPERIENCE – CORE TO ALL WE DO: SCALING DIGITAL TOOLS TO PERSONALIZE CARE, STREAMLINE ACCESS, AND BOOST OUTCOMES

L-5007

Diabetes Management Made Easy with DM Care App

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Introduction

Diabetes Mellitus (DM) is a pervasive and chronic metabolic disorder that requires continuous, meticulous management to avert severe complications and improve the quality of life for those affected. The International Diabetes Federation Diabetes Atlas 2021 reports that approximately 686,000 individuals in Hong Kong aged 20 to 79 are living with DM, with projections indicating this number will surge to 837,000 by 2030. Recognizing the critical need for effective self-management tools, the DM Care app was developed and integrated into the HA Go, which is an app built by Hospital Authority. This innovative DM Care app is designed specifically to assist DM patients and their caregivers in managing the condition more efficiently. By offering tools that facilitate tracking of dietary intake, health metrics, and educational resources, the app is poised to become an essential component in the holistic management of DM, ultimately aiming to improve health outcomes and patient engagement.

Aim/Objective(s)

The primary objective of the DM Care app is to empower DM patients through a user-friendly digital tool that promotes better self-management and the adoption of healthier habits. With the

expanded functionality to include carers in October 2024, the app aims to enhance the involvement of carers in the management of DM, fostering a supportive care environment. Specific objectives include: (1) providing a comprehensive digital platform for tracking food intake, monitoring health parameters, and accessing credible DM educational materials; (2) enabling patients and caregivers to set personalized reminders to improve adherence to regular glucose monitoring, medication schedules, and dietary management; and (3) inspiring caregivers to take an active role in the daily management of DM, thereby improving patient outcomes and creating a team-based approach to care.

Methods

The development of the DM Care app followed a user-centred approach, ensuring that the needs and preferences of DM patients and their caregivers were prioritized. The app features three core functionalities: Food Diary, DM Info, and Reminder. The design and development process involved collaboration with experts from the DM IT Working Group and consultations with DM patient groups to ensure the app's relevance and usability. The Food Diary function allows users to electronically log their food consumption, aiding in the identification of dietary trends and assisting in the creation of personalized meal plans for better glucose management. The DM Info function provides up-to-date, reliable information on various DM-related topics, delivering tailored educational resources. The Reminder function helps users set prompts for crucial self-care activities such as glucose monitoring, medication intake, and dietary schedules, with inputted health data being visible in the CMS and potentially sharable via the ePR system.

Results

Since its launch in December 2022, the DM Care app has achieved significant user engagement, with over 300,000 accesses recorded. The extension to include caregivers starting in October 2024 has been met with positive reception, with caregivers now constituting one-fourth of the app's user base,

actively participating in tasks like the Food Diary feature. The app's educational resources have been accessed by patients and caregivers more than 14,000 times, indicating a strong interest in DM-related information. The app's success demonstrates its potential to enhance the daily management of DM through improved tracking, education, and support. Future enhancements are planned, including the introduction of an insulin bolus dose calculator and automated app prescriptions based on established protocols. Additionally, exploration into AI technologies, such as food recognition with carbohydrate calculation, is underway to better meet the evolving needs of DM patients and their caregivers.

Conclusion

The DM Care app has shown promising results in its aim to empower DM patients and their caregivers through advanced self-management tools and educational resources. The strong engagement metrics since its inception underscore the app's value in daily DM management. The inclusion of caregivers has notably broadened the app's utility and reinforced the importance of a collaborative care approach. Moving forward, the app will continue to evolve, with planned enhancements aimed at further personalizing the user experience and integrating advanced technologies like AI for improved health outcomes. The success of the DM Care app highlights the potential of digital health tools to transform chronic disease management, advocating for wider adoption and continued innovation in this space to meet the growing needs of the DM population.

Conflicts of interest related to this abstract: None

L-5008

EndoHealth: New Model of Care for Endometriosis Patients

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Introduction

Endometriosis, affecting an estimated 190 million women globally, is a chronic inflammatory disease that severely impacts quality of life. Patients endure several symptoms including pain, fatigue, infertility and mental health challenges. Diagnosis takes an average of eight years, and treatment remains inconsistent due to limited research, varying treatment responses, lack of multidisciplinary care, and societal misconceptions. To address these issues, the Patient Experience Observatory and Endometriosis Unit launched the ENDOM-WAY project in 2021, engaging 285 patients through workshops, focus groups, and surveys. They identified three key unmet needs: (1) information, (2) tools to reduce the impact of disease, and (3) long-term follow-up. EndoHealth was created to tackle these challenges. Working closely with patients, we co-created the first endometriosis-specific PROM and PREM questionnaires and a repository of educational materials. These resources will be integrated into the care pathway through the EndoHealth application, set for implementation following its pilot study in 2026.

Aim/Objective(s)

EndoHealth aims to tackle the challenges identified in the ENDOM-WAY project by offering a holistic and accessible digital solution, integrated in the care pathway, for endometriosis patients.

Key Objectives:

- Develop a patient-centred digital platform to address the three key unmet needs identified by endometriosis patients.
- Co-create PROM and PREM questionnaires for symptom tracking, enhancing follow-up, shared decision-making, and better communication with clinicians.
- Co-create self-management tools and educational content tailored to patient needs and experiences, enhancing knowledge about the disease and its management.
- Conduct a pilot study, with the integrated co-created tools, to assess the platform's usability, effectiveness, and value for both patients and healthcare professionals.

Methods

EndoHealth has four phases, three of which are complete: (1) Co-creation of PROM and PREM, (2) Development of educational materials, (3) Integration of these tools into the hospital's digital platform, and (4) A pilot study to evaluate its impact on care delivery and patient experience. The success of the first two phases relied on co-creation with patients/citizen scientists. This involved two levels of participation: (1) A Patient Advisory Group (4–5 patients) working closely with researchers to ensure patient voices guide implementation, and (2) Broader participation in co-creation workshops. For PROM/PREM, patients helped define key domains, refine questions, and validate the questionnaire. For educational content, they identified and prioritized topics and formats.

With the platform now integrated into the hospital's digital system, the pilot study is set to begin, and patient recruitment is underway.

Results

We have co-created the first validated endometriosis-specific PROM and PREM in collaboration with patients and healthcare providers. The PROM covers eight key domains identified by patients, while the PREM covers seven – marking the first-ever PREM for endometriosis. Unlike the 48 existing PROMs, which are often lengthy, non-specific, and lack real-time usability, our version is concise, tailored, and designed for continuous symptom tracking and real-time insights. Validation through a cross-sectional study, with 5,589 invited participants, followed gold-standard psychometric testing to ensure reliability and validity. Additionally, we have developed a comprehensive collection of educational content with input from 69 patients, covering topics such as diagnosis, treatment management, physiotherapy, mindfulness, guided meditation, nutrition, and psychology. Co-created with experts and patients, these materials address real patient needs. Our goal is to continuously expand this repository, ensuring a rich, evolving resource for the endometriosis community.

Conclusion

EndoHealth represents a patient-centred approach to improving patient care, addressing critical gaps, identified by patients, in the ENDOM-WAY project. A key innovation of EndoHealth is its co-creation model, which has actively involved patients at every stage of the project and in developing educational resources and digital tools. This ensures that the platform is not only clinically relevant but also aligned with real patient needs. The educational repository will empower patients with knowledge, equipping them to better manage their condition and its impact on their daily lives, and participate more actively in their care. By integrating validated PROM and PREM tools into

a digital care pathway, we can enable symptom tracking, facilitate shared decision-making, and enhance communication between patients and healthcare providers. This data-driven approach will foster more personalized and effective treatments, leading to improved patient experiences and outcomes. As we move toward the pilot study, EndoHealth stands as a model for value-based healthcare, demonstrating how patient engagement, digital health solutions, and evidence-based methodologies can drive systemic improvements in chronic disease management. Our findings will inform practice, and research, providing a scalable framework for integrating patient-driven innovations into other areas beyond endometriosis and healthcare systems.

Conflicts of interest related to this abstract: None

L-5009

Human-Centered ICU Innovation: Transforming Critical Care Through Design Thinking & Empathy

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Introduction

Resource-limited Intensive Care Units (ICUs) often grapple with high infection rates, inconsistent hand hygiene, staff fatigue, and minimal family engagement, factors that erode patient trust and compromise outcomes. At Evercare Hospital Lahore, these challenges are heightened by reliance on temporary personnel and fragmented communication. Operating within a demanding healthcare system with constrained resources, the hospital sought a human-centered approach to reform its ICU. By integrating CritiCore – an audit innovation that leverages low-cost, fast-tracked, and nimble entrepreneurship to enhance critical care quality and prioritize ICU-based interventions through PDSA (Plan-Do-Study-Act) cycles and Empatheon – an empathy-driven framework that strengthens patient-family collaboration. This project aimed to improve safety, teamwork, and trust at the bedside. Additionally, the same ICU audit has been completed at Evercare Hospital Lekki in March 2025, with data analysis underway to validate scalability across different contexts.

Aim/Objective(s)

This project evaluates a dual-framework intervention, CritiCore and Empatheon which are designed to transform ICU care at Evercare Hospital Lahore through Human-Centered Design Thinking (HCDT) and quality improvement methodologies. The specific objectives include:

- Reduce infection rates by bolstering hand hygiene, upgrading ventilation, and standardizing protocols in line with international guidelines.
- Enhance staffing practices via simulation-based training, structured mentorship, and reduced reliance on temporary staff.
- Strengthen patient-family partnerships by co-designing visitation policies and establishing transparent communication channels.

By applying for a human-centered clinical audit, we seek to demonstrate measurable gains in patient trust, staff collaboration, and operational efficiency. The overarching goal is to deliver a replicable model for resource-limited ICUs, further validated through ongoing audits at Evercare Hospital Lekki.

Methods

A mixed-methods audit was conducted at Evercare Hospital Lahore's ICU in November 2024 and January 2025, guided by the Empatheon framework:

- Standard-Based Evaluations: Infection control protocols, ventilation systems, and hygiene practices were benchmarked against Joint Commission International-inspired standards.
- Structured Interviews: Twenty ICU staff members and six family representatives provided insights into training needs, communication barriers, and emotional support mechanisms.
- Direct Observations: Using a standardized checklist, observers assessed workflow efficiency, staff-family interactions, and adherence to co-designed visitation policies.
- Quantitative Data Analysis: Patient records and lab results were reviewed to monitor key hospital-acquired infections (CLABSI, CAUTI, VAP) pre- and post-intervention.
- Iterative PDSA Cycles: Human-Centered Design principles underpinned each cycle, enabling adaptive refinement of interventions.

A parallel ICU audit at Evercare Hospital Lekki commenced in March 2025, with findings expected to confirm transferability of this approach.

Results

Initial audits revealed high infection rates (approximately 45%), inconsistent hand hygiene, and fragmented communication among staff and families. Reliance on temporary personnel contributed to frequent workflow disruptions, as noted in interviews with frontline nurses and intensivists. Family representatives expressed concern over limited visitation access and inadequate updates on patient status.

After implementing structured mentorship, simulation-based training, and co-designed visitation policies, the January 2025 re-audit showed:

- Decreased infection rates (from 45% to 28%), with fewer CLABSI, CAUTI, and VAP incidents.
- Improved hand hygiene compliance by 35%, attributed to frequent reminders and accountability checks.
- Enhanced communication between staff and families, as reflected in a 20% drop in reported communication gaps.
- Reduced reliance on temporary staff by 30%, signifying better workforce stability.

These gains underscore the efficacy of iterative Plan-Do-Study-Act cycles under Empatheon. Preliminary data from Evercare Hospital Lekki indicate similar trends in infection reduction and team cohesion, supporting the framework's scalability for diverse ICU settings.

Conclusion

Integrating CritiCore and Empatheon within a Human-Centered Design Thinking framework has demonstrably strengthened critical care at Evercare Hospital Lahore's ICU. By directly confronting high infection rates, staffing instability, and inadequate family engagement, the project significantly advanced patient trust, operational efficiency, and clinical safety. These results underscore the feasibility of adaptive, empathy-driven interventions in resource-limited environments. Ongoing analysis at Evercare Hospital Lekki further validates this scalable model. Beyond immediate clinical gains – such as lower hospital-acquired infections and enhanced staff retention, introducing a co-design approach for visitation and communication fosters greater transparency and a deeper sense of partnership with families. Policymakers and healthcare leaders can draw on these lessons to implement sustainable, evidence-based reforms that resonate with both care teams and the communities

they serve. Ultimately, this project sets a new precedent for integrating design thinking, continuous quality improvement, and compassionate care in ICU settings across emerging markets

Conflicts of interest related to this abstract: None

L-5010

Simplifying In Patient Admission and In Patient Discharges in Hospitals and converting them into Do It Yourself (DIY) processes

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Introduction

The admission and discharge processes are critical to hospital operations, directly affecting patient experience and resource management. Traditionally, these processes have been manual, involving multiple stakeholders such as doctors, nurses, pharmacists, and billing teams. The lack of automation has resulted in inefficiencies, delays, and poor transparency for both patients and hospital staff.

Key Challenges Identified

1. Suboptimal Admission Experience: Lengthy admission procedures increase waiting times and administrative burden, leading to patient dissatisfaction.
2. Inefficient Payment Processing: Lack of real-time tracking of payments causes delays in financial reconciliation.
3. Limited Adoption of Digital Systems: Existing digital tools are underutilized due to complex workflows.
4. Delayed Discharge Process: Manual coordination between multiple departments slows down the discharge process.
5. Lack of Transparency: Patients often remain unaware of the status of their discharge, creating confusion and frustration.

Aim/Objective(s)

The project aims to digitally transform hospital admission and discharge processes by automating workflows, enhancing transparency, and improving operational efficiency.

Objectives:

1. Streamline Admission Process: Implement a contactless admission system using WhatsApp for digital documentation, payment, and communication.
2. Enhance Discharge Efficiency: Automate discharge notifications and approvals via WhatsApp, reducing delays and manual intervention.
3. Improve Payment Tracking: Differentiate and monitor online vs. offline payments to drive digital adoption.
4. Increase Patient Transparency: Provide real-time status updates at every stage of admission and discharge, ensuring clarity and reducing confusion.
5. Optimize Resource Utilization: Minimize administrative workload, reduce waiting times, and improve bed turnover.

By automating these processes, the project seeks to elevate patient experience, improve financial accuracy, and enhance hospital workflow efficiency while ensuring standardization across all units

Methods

This project employs a digital automation approach to optimize hospital admission and discharge workflows.

Participants & Sampling:

- Participants: Hospital inpatients, doctors, nurses, pharmacists, and billing staff.
- Sampling: A pilot study conducted across selected hospital units to assess effectiveness before full-scale implementation.

Data Collection & Tools:

- Data Sources: Electronic health records (EHR), payment transactions, and patient interactions.
- Tools: ATHMA (Health Information System) and AADI (Doctor App) hospital management systems, WhatsApp API for automated messaging, and Razorpay for digital payments.

Data Analysis:

- Metrics: Adoption rates, process completion times, patient feedback, and payment trends.
- Method: Comparative analysis of pre- and post-automation data to measure efficiency improvements.

The study aims to validate process efficiency, patient satisfaction, and financial accuracy through real-time data tracking and workflow automation.

Results

The study revealed significant improvements in hospital admission and discharge efficiency through digital automation.

Admission Process:

- 80% reduction in manual paperwork with WhatsApp-based digital admissions.
- 40% faster admission processing time, as patients uploaded documents and made payments online before arriving at the hospital.
- Increased adoption of online payments, with a 30% rise in digital transactions via Razorpay.

Discharge Process:

- 50% decrease in discharge wait times, from an average of 6 hours to 3 hours.
- 95% of patients received real-time WhatsApp updates, reducing confusion and improving satisfaction.
- Billing completion time reduced by 35%, as digital tracking of invoice generation and settlement improved coordination.

Data Validation & Methodology Link: These findings were derived from pre- and post-automation data analysis across pilot hospital units. Metrics were collected from ATHMA, AADI, WhatsApp API logs, and payment systems, confirming that workflow automation significantly enhances efficiency, transparency, and patient satisfaction.

Conclusion

This project directly addresses inefficiencies in hospital admission and discharge processes by leveraging automation, digital communication, and real-time payment tracking. The findings demonstrate faster patient processing, increased transparency, and improved financial accuracy, leading to enhanced patient satisfaction and hospital efficiency.

Impact on Health Services:

- Reduced administrative burden allows hospital staff to focus on patient care rather than paperwork.
- Faster bed turnover improves hospital capacity, reducing delays for new admissions.
- Greater transparency through WhatsApp updates minimizes patient confusion and enhances communication.
- Digital payment adoption ensures smoother billing processes, reducing revenue leakages.

Innovative Contributions:

- Policy: Establishes a standardized digital workflow for hospital admissions and discharges.
- Practice: Integrates WhatsApp automation into hospital management, a first-of-its-kind scalable solution.
- Research: Provides a data-driven model for evaluating digital transformation in healthcare.

By addressing key inefficiencies, this project sets a benchmark for digital hospital operations, offering a replicable model that

can be scaled across healthcare facilities to improve patient experience, operational efficiency, and financial management.

Conflicts of interest related to this abstract: None

L-5011

Teleradiology in Saudi Arabia: a national survey and retrospective review of associated MRI reports

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Introduction

Due to the recent evolution of telecommunications, digital communication can provide essential services to remote areas while maintaining a high-quality standard that improves service delivery. The disparate allocation of specialized treatment resources between rural and urban medical centers coupled with substantial geographical distance result in the need for frequent travel to access specialized or advanced imaging procedures. This situation has led to notable advancements in telehealth. Teleradiology allows the ability to obtain images at one site, send them over a distance, and view them remotely for diagnostic or consultation purposes, currently emerged as one type of this progress, effectively bolstering healthcare delivery to underserved rural regions while addressing challenges associated with geographical barriers and the scarcity of specialized proficiency.

Aim/Objective(s)

The highlighted objectives include (a) the added value of the service, (b) user satisfaction, and (c) quality assurance according to global best practices and national quality standards.

Methods

This study utilised an eight-part online self-report survey distributed among employees of the Ministry of Health (MOH) who use the national teleradiology platform. The survey sections were designed to gather comprehensive data, including participant demographics, levels of satisfaction with the service, awareness of security measures, communication effectiveness, perceived advantages and disadvantages, quality assurance, technical challenges, IT support, and future perceptions of teleradiology services. Additionally, a total of 212 MRI reports from patients who underwent brain and spine MRI examinations between 2018 and 2020 were collected from the platform to strengthen the analysis.

Results

Most survey respondents (78%) were males, with a significant majority (96.2%) affirming that teleradiology sufficiently addresses clinical inquiries. Furthermore, 90% expressed satisfaction with the service, and 93% endorsed the standardization of MR imaging procedures across Ministry of Health (MOH) hospitals. Notably, 92.4% recognised teleradiology as a transformative strategy for healthcare facilities in Saudi Arabia, concurring with its benefits. The analysis of the MRI reports revealed structural inconsistencies; compared with structured templates, the average number of incorporated elements was reduced, and essential elements were frequently absent. Intriguingly, reports delineating normal cases included a higher incidence of clinical impressions relative to those describing abnormalities, yet the latter contained a more comprehensive array of elements. Variability in report composition was correlated with the years of experience of the reporters. Teleradiology users perceived enhancements in the quality of radiological reporting and the daily operational workflow. Nonetheless, certain limitations were identified, necessitating focused improvements by service providers.

Conclusion

our study study highlights the need for standardized practices, improved communication, and enhanced IT support to ensure efficient and high-quality teleradiology services. Teleradiology, though beneficial, raises concerns about potential challenges. A mobile app that enables notifications and communication could expedite reporting and enhance the user experience. Despite the potential benefits of structured reporting, its adoption in the region is slow. The cost effectiveness of teleradiology is unparalleled compared with the expenditures related to specialized healthcare facilities. In addition to cost savings, teleradiology offers significant enhancements to various medical imaging services, including improved accessibility, faster turnaround times, and the ability to reach remote or underserved areas with quality diagnostic interpretations

Conflicts of interest related to this abstract: None

L-5012

VaccinaMilano: Community-Based HPV Vaccination for High-Risk Populations

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Introduction

High-risk human papillomavirus (HR-HPV) serotypes cause nearly 5% of all cancers and are the primary etiological agent for anogenital tumors. The existence of a viral etiological agent responsible for neoplasia provides the rationale for developing primary prevention programs based on vaccines. Since 2007, Italy has offered the 9-valent HPV vaccine free of charge to adolescents starting at age 11, with varying schedules based on age and risk class. Studies have shown a significantly higher prevalence of HR-HPV in men who have sex with men (MSM), transgender individuals (TGD), and sex workers (SW) compared to the general population (41%, 52%, and 82% versus 8%, respectively). Vaccination coverage data in MSM is concerning (38% versus 60% in girls in Italy), while data for TGD and SW populations is lacking.

Aim/Objective(s)

The "VaccinaMilano" project was organized to offer the 9-valent HPV vaccine to MSM, TGD, and SW populations, as per the Italian National Health System's guidelines. Free capillary rapid tests for HIV and Treponema Pallidum were also offered.

Methods

The initiative stemmed from collaboration between healthcare institutions (providing resources and expertise) and community-based associations (offering insights into communities needs and direct perspectives on the healthcare system). The location was chosen to convey confidence, and the timing was selected for accessibility and maximum attendance. Communication and outreach were central for the event's success. The initiative was resource-neutral, maximizing existing resources, incentivizing creative solutions, and leveraging existing partnerships. Alongside the HPV vaccine, a voluntary, anonymous questionnaire was administered to gather demographic data and assess knowledge of HPV-related diseases and HPV vaccination.

Results

The organizing team consisted of members from volunteer/community-led associations (Milano Check Point, ADS, ANLAIDS, Salute Donna Oclus) and institutions (Luigi Sacco Hospital and University of Milan). Events were held in October 2023, May 2024, and October 2024, on Friday evenings during appetizer hours (6–11 PM), with gazebos set up in a square in Milan's LGBT-friendly district. An eye-catching visual was created for publicity; social media campaigns were conducted, and launch events were held in LGBTQ+ venue. The operational team included university students (for form completion support and post-vaccination monitoring), physicians from the Oncology, Infectious Diseases, and Prevention departments (for vaccination evaluation), nurses (for vaccination administration), and volunteers (for registration and follow-up appointment communications). Vaccines and materials were provided by ASST, and healthcare personnel volunteered their time. During the three events, 610 first doses of the HPV vaccine and 250

rapid tests for HIV and Syphilis were administered. Despite the high educational level of most participants (university), only 12% knew the carcinogenic role of HPV. A critical aspect that emerged from the questionnaire results concerns the reasons for lack of access to vaccination. In 17% of cases, the subject was turned away by healthcare personnel.

Conclusion

VaccinaMilano is an excellent community-tailored HPV vaccination strategy for high-risk individuals (MSM, TGD, and SW). It offered benefits to both the communities and individuals. It improved understanding of local needs and highlighted the vaccination coverage gap between general and high-risk populations. Public policies become more effective when co-designed by healthcare institutions and community representatives. The community became an active protagonist through increased engagement and empowerment. This was demonstrated by subsequent requests for vaccination from at-risk individuals. Finally, it prevented situations of discomfort and marginalization; community-based vaccination overcame distrust towards institutions, typical among TGD individuals.

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POSTER ABSTRACTS

TRACK 1: LEADERSHIP IMPERATIVES

P-1001

Adapting the IHF Leadership Model to Catalonia: assessment and strategies to strengthen future healthcare leadership

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Introduction

The IHF Leadership Model was developed to equip healthcare executives worldwide with the competencies required to address current and future challenges. Recognizing the importance of adapting global frameworks to local realities, La Unió has translated and customized this model for Catalonia's healthcare system. This initiative includes the development of a self-assessment tool that enables healthcare leaders to evaluate and enhance their competencies while fostering a culture of continuous learning and improvement. By aligning leadership development with international standards, this project aims to strengthen governance, optimize decision-making, and promote professionalized management across the healthcare sector. By providing evidence-based resources, this initiative seeks to empower healthcare executives with the skills and insights needed to drive organizational excellence and sustainable healthcare transformation.

Aim/Objective(s)

- Adapt and translate the IHF Leadership Model for implementation in Catalonia.
- Promote leadership professionalization through competency assessment and training.
- Develop a self-assessment tool to identify strengths and areas for improvement in leadership competencies.
- Conduct a diagnostic study to analyze the current leadership landscape in the Catalan healthcare sector.
- Facilitate dialogue and knowledge exchange, organizing workshops and expert-led discussions.
- Design a continuous training plan to enhance healthcare leadership skills.

Methods

The project follows a structured and participatory approach, integrating research, capacity-building, and stakeholder engagement:

1. Translation and adaptation of the IHF Leadership Model
 - Official Catalan version published in January 2025.
 - Collaboration with the International Action Advisory Council of La Unió and UCF to ensure quality and relevance.
2. Development of a self-assessment tool
 - Designed to measure leadership competencies among healthcare executives.
 - Initial test phase (December 2024) with 9 participants from the International Advisory Council.
 - Pilot study (January–February 2025) involving Catalan healthcare executives.
 - Full rollout and analysis in the first half of 2025, with 130 participants providing insights into leadership trends.
3. Workshops and knowledge-sharing sessions
 - Expert-led session (May 2025) to analyze study findings and propose leadership improvement strategies.
4. Design of a continuous training plan

- Development of targeted training programs to address identified needs across different leadership levels.

Results

The study and implementation phases have generated valuable insights into leadership trends and development needs in the Catalan healthcare sector. Key findings include:

1. Comprehensive leadership assessment
 - Identification of key strengths and areas for improvement across different management profiles.
2. Increased awareness and commitment to leadership development
 - The initiative has sensitized healthcare executives about the importance of professionalized leadership.
 - The tool has provided participants with personalized reports to guide competency development.
3. Evidence-based leadership framework for Catalonia
 - The IHF model has been successfully adapted, creating a localized leadership reference framework.
 - The study's quantitative and qualitative data offer actionable recommendations for strengthening leadership training.
4. Capacity-building and knowledge exchange
 - Expert workshops have facilitated dialogue on leadership best practices and strategic improvements.
 - The insights generated will shape a long-term training and capacity-building strategy.

Current Profile: 135 responses

Management or General Direction (e.g., Director, Manager) – 20.7%

Area or Department Head (e.g., Healthcare, HR...) – 52.6%

Middle Management or Team Coordination (e.g., Team Leader, Coordinator) – 24.4%

Conclusion

Catalonia. By adapting an internationally recognized model to the Catalan healthcare landscape, La Unió has empowered executives with tools, insights, and strategies to strengthen leadership and drive healthcare transformation: The adaptation of the IHF model provides a structured and evidence-based approach to leadership development. The self-assessment tool enables healthcare executives to evaluate and enhance their leadership competencies. The diagnostic study offers valuable insights into leadership trends and professional needs in Catalonia. The training plan ensures sustainable improvement, equipping future healthcare leaders with the skills to navigate complex challenges. By aligning leadership strategies with global standards while ensuring relevance to Catalonia's unique healthcare ecosystem, this initiative establishes a long-term framework for continuous learning, professional growth, and system-wide improvement. This experience can serve as a reference model for other healthcare systems, demonstrating how localized adaptations of global leadership frameworks can contribute to stronger governance, better decision-making, and enhanced healthcare.

Conflicts of interest related to this abstract: None

P-1002**Internal Hospital Certification Model for Integrated Functional Units (UFI) of rare and complex diseases.**

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Introduction

In our strategic planning the has committed itself to becoming a reference centre for paediatric care and treatment, based on the progressive increase in the complexity of care processes and the exponential growth of teaching and research areas; in recent years our centre has treated more than 25,000 patients with rare and complex diseases (RD). In response to the needs of patients, families and professionals, an internal model of attention to complexity has been consolidated, based on the so-called Integrated Functional Units (UFI), which coexist with the traditional services. In parallel with this evolution, our centre has been recognised by public administrations as reference centre for different RDs. From these accreditations processes we have learned insights that we have applied in our internal model, facilitating the harmonious monitoring and growth of our hospital referral units.

Aim/Objective(s)

The main objective of Internal Model of Certification of UFI is to accompany and improve high complexity care. This model seeks to ensure that the UFIs meet a common minimum quality level, promoting a patient centric multidisciplinary work, as well as continuous improvement in effectiveness, efficiency, safety and patient experience.

- Main objective. To support high complexity care units.
- Secondary objectives: (1) to create an instrument, independent of external accreditations, for UFI identification, support and follow-up, (2) to guarantee a minimum level of quality common to all the UFI, (3) to promote multidisciplinary work centered on the patient/family, (3) to promote the dynamics of monitoring and continuous improvement, and finally (4) to align internal designation criteria with those of external accreditations, both to facilitate possible new recognitions, and to guarantee the maintenance of already recognized units.

Methods

The evaluation methodology is based on well established procedures, and ensures a rigorous and comprehensive evaluation process, promoting continuous improvement and high standards of care.

Criteria grouped into seven areas

1. Unit and Multidisciplinary Team
2. Knowledge
3. Processes
4. Patient/Family
5. Quality of Care
6. Safety
7. Information Management

Criteria Compliance

- Necessary Criteria: Must be completely fulfilled.
- Optional Criteria: Indicate the maturity level of the unit, and become mandatory after 2 years of the accreditation.

Evaluation process

- Self-Evaluation

Follow-Up

Annual Follow-Up

- Renewal every 5 years.

Scoring and Assessment

- The evaluation is based on the documentation provided and the oral defence.
- The scoring system includes 4 levels: retrogression, new, stable, and progress.

Final Resolution: Only units that meet all necessary criteria receive a positive resolution. The UFI coordinator is then recognized as Unit Head. The rest are provided with feedback and a proposed work plan.

Results

Main differences with respect to external accreditations

- Independence in the prioritisation of areas to work on
- Greater transparency in the identification of areas for improvement
- No pressure from external schedules
- Internal equity in the recognition of the referral units and its coordinators

Results

- 21 UFI accredited
- Increase of external accreditations
- Improves multidisciplinary care
- Enhances the implementation of quality indicators
- Promote the analysis of the patient experience
- Facilitates management's better understanding of the goals achieved, and challenges faced, by its Units

Conclusion

Inequity for RDs is driven by multiple causes, foremost of which is a lack of public awareness and medical knowledge, research and expertise. With this model we hope to contribute to improved (1) health equity by improving high complexity care of RDs without taking into account the criteria used externally to recognise specific thematic areas, and (2) access to RDs referral units by facilitating external accreditations. Furthermore, we aim to have a positive health impact on patients and their families.

Conflicts of interest related to this abstract: None

P-1003**'Call First, Save Lives (CFSL)'**

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Introduction

Portugal has significantly higher rates of hospital emergency service visits than other OECD countries, with studies indicating that approximately 30% of visits result from inappropriate use of NHS hospital emergency departments (ED). Therefore, reducing the inappropriate or avoidable use of NHS hospital emergency services is essential and represents a measure to enhance efficiency and improve the quality of healthcare delivery. In EDVLHU, for the year 2023, we achieved a total of 39.2% of patients classified according to the Manchester Triage Protocol with low urgency/non-urgent (green/blue) priorities, which confirms that a high number of these patients continue to come to the ED, when they should be seen at another level of care. In the interest of effectiveness, efficiency, quality of care, and resource optimization, EDVLHU has implemented the 'Call First, Save Lives (CFSL)' (Ordinance No. 71/2024, of February 27, later amended by Ordinance No. 343/2024/1, of 19 December).

Aim/Objective(s)

The main objectives of the 'CFSL' Project, achievable by promoting referrals through the NHS 24 service, can be summarized as follows:

- Improve access to and quality of healthcare services;
- Redirect patients to the most appropriate care setting;
- Faster response times to patients' clinical needs, reducing waiting times for medical care;
- Avoid unnecessary patient travel;
- Provide patients with better information on self-care;
- Integrate primary and secondary care in the context of acute and chronic illness;
- Use the Emergency Department (ED) for the care of emergency/urgent patients requiring prompt and dedicated care.

This project aims to achieve improvements in effectiveness, efficiency, quality of care, and resource optimization.

Methods

EDVLHU launched a large-scale communication campaign, both externally and internally with radio and local press campaign, outdoor advertising campaign, digital campaign and release of videos featuring local influencers. At the PHC level, an average of 530 daily slots were created, distributed across 37 PHC units. Appointment schedules are opened weekly and can be adjusted based on demand, allowing consultations to be booked directly through SNS24 and the ED hubs of EDVLHU and opening a new Complementary Care Service in Santa Maria de Lamas. A hospital care structure was created for the direct referral of acute patients by PHC doctors, at the level of consultations, day hospital, and home hospitalization, with the development of referral protocols and dissemination through the Health Information System. A monitoring system for the project was created, using a set of metrics to track the progress of the project's results during daily/weekly follow-up meetings, as attached.

Results

After ten months of implementing 'CFSL' Project we highlight the main results:

- there has been positive progress in patient referrals, with 85% of cases now directed to the appropriate care location – reflecting increased adherence to using the NHS24 Line as the first point of contact. Significant decrease in ED visits (-41,559|-21,6%), substantially reducing hospital emergency overload and freeing up resources for more critical cases;
- drop of 44.1% in patients classified as low urgency/non-urgent (green/blue) according to the Manchester Triage Protocol, with a 10.4 percentage point decrease in their relative weight;
- 4.7% reduction in patients classified as urgent (yellow) under the Manchester Triage Protocol, yet with a significant 10.2 percentage point increase in their relative weight, confirming that the ED is being prioritized for more severe cases;
- total number of consultations conducted by Primary Healthcare Services was 37,043;
- total number of consultations scheduled by the Emergency Service in Primary Healthcare Services was 295;
- number of acute consultations, directly referred from Primary Healthcare Services to the Hospital, was 640.

Conclusion

The first ten months of the Project's implementation have demonstrated a highly positive impact, both on the functioning of the Emergency Service at EDVLHU, ensuring that Hospital Emergency Care is reserved, as it should be, for the most severe cases and on the management of emergency resources,

particularly by reducing the inappropriate use of the ED. The Project has enabled a more efficient patient referral system, ensuring that Emergency Services are reserved for the most critical cases, resulting in greater efficiency and higher quality of care. However, there is still room for improvement, particularly in strengthening coordination between Primary Health care Services (PHC) and Hospital Healthcare Services (HHC) to increase the number of direct referrals made by PHC doctors. This would encourage the use of the hospital structure created for this purpose. Additionally, ongoing adjustments to the availability of consultation slots are needed to optimise the response to the population's needs. In summary, the 'Call First, Save Lives' Project is proving to be a key strategic initiative in ensuring a more efficient and sustainable NHS. However, its success will depend on the continued reinforcement of communication with patients, the integration of healthcare services, and its expansion to other LHU units.

Conflicts of interest related to this abstract: None

P-1004

Co-payment Fee and Utilisation of Healthcare Services: the case of out-patient insured patients at a private hospital in Mombasa, Kenya

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Introduction

Co-payments are out-of-pocket payments introduced by third party payers of health such as health insurance companies (who have been reporting losses for a long time, despite an increase in the premium contributions) as gate keeping measures to try and reduce moral hazard. Such co-payments try to control utilisation of health services by patients by reducing hospital visits, consultation charges, laboratory and pharmaceutical costs. Out-of-pocket payments are also known to have detrimental effects of reducing universal health care. The effectiveness of these co-payments in reducing utilisation of health services/ health costs and resulting in savings for the health insurance companies is however still unclear, with some studies arguing that it has little or no effect and some having opposite effects of increasing health costs.

Aim/Objective(s)

General Objective: To assess the effect of co-payments levied to medically insured patients on utilisation of healthcare services at the Outpatient departments of a private hospital in Mombasa, Kenya and its outreach clinics

Specific Objectives

1. To assess the association between co-payments and the number of visits and average consultation costs for Insurance patients seeking healthcare services
2. To assess the association between different levels of co-payments and the number of visits and average consultation costs for Insurance patients seeking healthcare services
3. To assess the association between co-payments and the average number and average costs of laboratory tests, pharmaceuticals and other hospital related activities for insurance patients seeking healthcare services.
4. To assess the association between different levels co-payments and the number and average costs of laboratory tests, pharmaceuticals and other hospital related activities for insurance patients seeking healthcare services

Methods

Data of more than 108,000 patients who visited the hospital over a 12-month period in the year 2021 was obtained from the

Hospital Management Information System. Descriptive analysis was done presenting counts(percentages) and means (standard deviations) of the different variables. Bivariate analysis tests for differences in hospital visits among the co-pay groups were done using Chi square tests for categorical variables and one-way analysis of variance (ANOVA) and median tests for the continuous variables, presenting the p values. Utilisation of health services was analysed by mainly comparing number of visits and costs of the different health services in the study population. The co-payment group was further divided into four tiers of co-payments (Kshs 1-500, 501-1000, 1001-1500 and 1501-2000). Key: One US Dollar (USD) approximates 130 Kenya Shilling (Kshs)

Results

Our findings showed that co-payments generally had the effect of increasing the cost of utilisation of healthcare compared to when there was no co-payment and affected the number of patients attempting to utilise health. Co-payment tier of Kshs 1-500 (lowest) had the highest number of patients seen for those on co-payment and the number of patients generally decreased as co-payment increased. The study showed that co-payments affected not on co-payment. The overall utilisation costs per visit were also significantly higher for those who paid co-payment versus those that did not. Analysis of the different tiers of co-payments showed a significant difference in the cost of utilisation in some aspects of healthcare and in some tiers of co-payments.

Conclusion

Our study highlights the effects of Co-pay on the provision of health services with the study showing increased costs towards healthcare when co-payment was present, more so when the co-payment amounts increased suggesting that savings for the health insurance companies despite co-payments is thus unlikely. These results can thus be used by both the insurance companies and other stakeholders in the health industry to influence policy on health financing.

Conflicts of interest related to this abstract: None

P-1005

Creating value in healthcare: our people-centred sustainable management & leadership model as a lever for cultural change, innovation and excellence

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Introduction

The Swiss healthcare system faces significant challenges, including increasing complexity of care, financial pressure, workforce shortages and the need for equitable and sustainable access to care. In such a complex environment, it is essential that all stakeholders understand the value of their contribution. Without a shared vision and strategic direction, there is a risk of fragmentation rather than real value creation for patients. To address this, the ORBV has integrated Value-Based Healthcare (VBHC) into its long-term strategy. Our hospital has adopted a three-pillar management approach:

- Value-based Leadership and development at all levels;
- Implementation of VBHC, Lean management, risk & project management tools, and clinical pathways;
- Individual and team wellbeing programmes.

This model improves patient safety, quality of care and efficiency of service, while optimising processes and valuing healthcare professionals, thus promoting a resilient, efficient and patient-centred healthcare system with motivated workforce.

Aim/Objective(s)

Our goal is to transform the hospital into an ecosystem of value, where every decision and initiative is guided by a long-term vision capable of creating a real and lasting impact for patients, professionals and the entire healthcare system. To achieve this, we aim to create a cultural change within the organisation that fosters greater integration between the different stakeholders in the healthcare system. In addition, we recognise the importance of developing organisational resilience, understood as the hospital's ability to anticipate, prepare for, respond to and adapt to change and unforeseen challenges, ensuring the continuity and quality of services provided.

Methods

Our hospital prioritizes annual strategic projects via Balanced Scorecard (BSC) with SMART goals, clear accountability, and monthly reviews, ensuring operational excellence through daily/weekly management, huddles, and KPI monitoring to identify issues, optimize resources, and enhance workflows. We integrate lean tools such as Safety & Gemba Walks, A3 Thinking, Kaizen and 6S audits. We enhance care continuity through clinical pathways and audits. We measure financial impact using EBITDA, cost per patient, and length of stay, linking quality improvement to cost savings for a value-based model. Our risk management integrates in-situ simulations to enhance prevention and preparedness, fostering a proactive safety culture and mitigating risks. ORBV promotes leadership, talent growth and career development through performance reviews, training programmes, career development plans and a structured Leadership Academy. ORBV's well-being program fosters resilience, engagement, and awareness through PERMA-based mindfulness, coaching, yoga, with a dedicated relaxation room enhancing team belonging and a sustainable work environment.

Results

- An improvement in workflow management with a 50-70% reduction in changeover times compared to before, with optimisation of corporate resources, e.g. in the management of the operating theatre and endoscopy room, which have the lowest cost per point in the entire multi-site hospital EOC.
- An improvement in key financial performance indicators over the past year; in particular an 18% improvement in EBITDA from 4 to 4.8 million; a 4% reduction in the average length of stay from 6.75 to 6.45 patient days.
- Successful projects include VSM for intravitreal injections, Six Sigma for surgical instrument reprocessing, SMED for operating theatre patients changeover and Integrated Facility Design (IFD) for redesigning the emergency departments.
- We have also used validated questionnaires to measure perceptions of stress before and after a Mindfulness-based Stress Reduction course. We have also seen a reduction in staff turnover and sickness absence over the last two years.
- An enhanced safety culture and psychological safety climate led to 57% of improvement reports addressing near misses. Self-reporting rates increased by 8% over three years, reflecting greater engagement in proactive risk identification.

- The implementation of PDTA in colorectal surgery increased protocol compliance from 40% to 79%, reduced surgical complications from 60% to 30%.

Conclusion

Integrating leadership development, Lean management, VBHC, clinical Pathway, risk & project management, and organisational well-being creates a sustainable, people-centred healthcare model. Achieving sustainable impact requires a balance between innovation, operational efficiency and employee empowerment, while ensuring standardized processes. For this model to be effective, a favourable environment is essential, given the increasing pressure to control costs and optimise resources. The Choosing Wisely approach plays a key role in eliminating waste and unnecessary interventions. In addition, an effective IT platform and the use of big data remain critical but underexplored tools for process optimization and personalised care. By leveraging these elements, healthcare systems can improve efficiency, coordination and patient outcomes to ensure value-based and sustainable healthcare. A further determinant of success in the path of continuous improvement is the leadership and commitment of the hospital's top management and clinical staff, which are indispensable to ensure the success of any organizational transformation initiative. This is a continuous improvement journey in patient care that needs to be sustained over time. Only in a context in which these conditions are consolidated it is possible to transform the hospital into a more efficient, integrated, sustainable and value-oriented system for the patient.

Conflicts of interest related to this abstract: None

P-1006

Designing and delivering managerial training for the turnaround of a National Health System – the exemplary case of the Romanian NHS

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Introduction

Leadership and management theory and research in business environment converge in identifying the quality of leaders and employees as key for higher performance at system and organizational level. This particularly applies to public health systems. An increasing pressure for better performance and sustainability requires both the rethinking of traditional paradigms and disruptive actions for the reconfiguration and reorganization of health systems themselves. Not surprisingly, many National Health Systems (NHS) have started from the '90s to invest in developing a stronger cohort of managers and leaders for running system level positions and organizational apex. Doctor-managers first, clinical leaders today, as well as hospital leaders and health authority managers are the foundations for better performing NHS. Yet, the road is long and incredibly hard. So, how can a NHS develop an effective system-wide change process to increase its -situational and context-aligned – leadership and managerial capacity and capability?

Aim/Objective(s)

Our study aims to investigate and theorize how a context-specific and competency-based large-scale managerial training scheme should be designed by the governance of an NHS. One

that has greater chances to be successful in nurturing the cohort of leaders necessary to steer and sustain the changes. One that has the potential to engage the largest possible volume of next leaders and managers, as high-performance health systems and organizations require collective leadership and proficient management. The exemplary case of a turn-around ignited in the Romanian National Health Service is thoroughly investigated to provide useful food-for-thought for the leadership of countries in transition, that aim at embarking in a system-wide managerialization process.

Methods

A literature review identified which managerial training schemes models/approaches have been developed for the design of context-specific managerial training schemes. This includes tools and processes supporting the identification of competences/skills/knowledges. In 2023-2024, a real-world case in the Romanian NHS, supported by WHO and the Health Minister, engaged 150-5,000 clinical leaders. The training scheme was designed and delivered nationwide as follows:

- Definition of context and target specific training needs through semi-structured interviews and online surveys involving 1,200 contacts.
- Organization and delivery of small-scale training scheme to a selected 150 trainers' cohort (Training of Trainers – ToT) by educators from Italy, Spain and Portugal.
- Organization and delivery of system-wide training through the trainers that attended the ToT to reach up to 5,000 health managers and clinical leaders.

Further, evidence on impacts and results of the whole training scheme are investigated through specific online surveys and selected interviews with ToT champions.

Results

The analysis highlights the potentially significant impact of tailored, competency-based management training programs on healthcare governance and institutional capacity building. They emphasize the crucial shift from traditional to competence-based human resource management practices. The analysis identifies common training needs among different health sector professionals (public health directorates, national health insurance houses, and ambulance service managers), with strong emphasis on leadership and managerial skills. Key training needs identified are strategic planning, change management, ethics, teamwork, self-management, negotiation skills, and a comprehensive understanding of health system dynamics to effectively address daily challenges.

Conclusion

Lessons from the experience of a "transitioning" healthcare system like the Romanian NHS is useful to generate know-how that can inspire future interventions in similar contexts.

Specifically, the present work appraises which and how customization can be necessary to enhance the success of training schemes given the NHS context specificities, situational path-dependency, system governance structure. Furthermore, it provides insights on designing a large-scale system-wide transformational change ignited by a managerial training initiative. Lessons and reflections are discussed on how to identify training gaps, design contents fit for the specific background and roles of professionals, customize methodology and structure to the specificities (culture and governance) of the context. Finally, it highlights how the combination of competences and experiences of trainers with tacit knowledge and understanding of the culture of the target country might represent crucial success factors.

Conflicts of interest related to this abstract: None

P-1007

Development of Leadership Programme for Doctors at tertiary careteaching institute based on Leadership Training Needs and Prevailing Leadership Styles

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Introduction

The medical education program generally emphasises medical knowledge and technical proficiency, which may sometimes overshadow the need for leadership development. The study setting is an institute of national importance with a tertiary care teaching hospital that is only eleven years old. Senior doctors in the institute are assigned administrative positions such as head of department, faculty in charge, or unit chief. They need to coordinate with other departments to work efficiently and develop team-building and communication skills.

Aim/Objective(s)

The study aims to create a customized training program for doctors to develop stronger leadership skills, build a team-based organizational culture, improve performance, and enhance patient care. It has also evaluated the training effectiveness

Methods

An observational study was conducted among senior medical doctors (n = 110) in a tertiary care teaching medical institution in collaboration with experts from a management institution. The participants were self-nominated. The study was conducted over 12 months and divided into three phases. Phase 1 included collecting the responses from the Faculty Members through Focused Group Discussions (FGDs). The findings were analysed using the ATLAS Ti software. Training modules were developed on the training needs identified in the FGDs. Phase 2 included conducting the training program. Phase 3 included one-to-one interaction with the participants for the post-training assessment regarding content relevance, trainer effectiveness, participant engagement, and post-training application and impact. Ethical Clearance was obtained (T/IM-F/21-22/07) from the Institution Ethics Committee. The Institute funded the research work through intramural funding

Results

110 doctors participated in the study. The female-to-male participant ratio was 1:3.

Phase 1: In the FGDs, the doctors mentioned the challenges faced in their profession like lack of support from senior management, professional security, lesser pay as compared to the private sector, job dissatisfaction, poor resource management, professional skill upgradation, the brand image of the institution, and others. Senior doctors highlighted the concerns of empathy, care, value alignment of person and organization, and interpersonal conflict, which affect patient care. Management concerns identified were inequity, unfair treatment, administrative inefficiency, budget allocation, time-consuming process, and unjust treatment from senior management.

Phase 2: Based on the training needs identified, a comprehensive training program of six hours was developed consisting of four modules: 1) Emotional Intelligence and Stress Management, 2) Work-life Integration, 3) Procurement Process and Financial Planning, and 4) creating a Shared Value.

Phase 3: 87% of participants expressed positive feedback about the program's objectives, with 80% mentioning that training aligned with their personal goals. 93% noted that trainers were knowledgeable and could answer their queries. 87%

of participants felt that the program elicited interest throughout the sessions. 77% respondents felt they gained necessary skills from program, while 47% could implement them

Conclusion

The leadership training needs and challenges faced by medical doctors in a teaching institution could be identified, and a comprehensive leadership program module was developed. The sessions were well received by the participants and helped integrate the learnings into their routines. This customised leadership program was impactful in improving their professional leadership skills. Future directions: The study findings are recommended for implementation in other Institutes of National Importance and medical colleges and may also be considered in the performance appraisal system.

Conflicts of interest related to this abstract: None

P-1008

Disaster Risk Management in a High Complexity Hospital specialized in emergencies and urgent care in Lima-Peru in the year 2023-2024.

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Introduction

According to the World Risk Index 2023, Peru has a risk index of 25.5, placing it in 13th place, out of 193 nations evaluated, with a very high risk of disasters. This indicator measures the population's exposure to extreme natural phenomena and social vulnerability. The JCUEH does not escape this reality, however, in the face of disaster risk, the hospital assumes a commitment approach to managing it, because it is aware that, in the event of a disaster, society trusts the hospital to be part of the response and not part of the problem. The sense of managing disaster risk in the hospital is vital to have operational continuity when there is a disaster. To do this, we use Budget Program 068 "Vulnerability reduction and disaster emergency response", a public management strategy that links the allocation of budgetary resources to results.

Aim/Objective(s)

The main objective is to describe disaster risk management in a highly complex hospital specialized in emergencies in Lima-Peru, "José Casimiro Ulloa" Emergency Hospital, in the years 2023 and 2024. This description is based on the public results-based management strategy, which in this case is called: Budget Program 068 "Vulnerability reduction and disaster emergency response" (BP 0068).

The specific objectives are:

1. Evaluate the budget allocation at the beginning of the year and at the end of the year in 2023 and 2024 of BP 0068.
2. Evaluate the execution of the budget goals in 2023 and 2024 of BP 0068.
3. Evaluate the execution of the physical goals in 2023 and 2024 of BP 0068.
4. Determine the relationship between the execution of budget goals and the execution of physical goals in 2023 and 2024 of BP 0068.

Methods

This research is quantitative, basic, non-experimental, cross-sectional and correlational in scope. The population was made up of all the items by which the budget was divided, as a census sample. The items referred to are those considered as products and activities of the functional programmatic structure of 2023 and 2024 considered by the JCUEH.

The budgetary and physical goals are publicly accessible on the Economic Transparency Portal of the Ministry of Economy and Finance of Peru, called "Monitoring of Budget Execution: Friendly Consultation". Therefore, the use of the information is ethical. The hypothetical-deductive method, the documentary analysis technique and the spreadsheet as an instrument were used. The Wilcoxon test (Wilcoxon signed rank test) was used to determine if there is a significant relationship between the execution of budget goals and the physical goals in 2023 and 2024 of BP 0068.

Results

Disaster risk management in the "José Casimiro Ulloa" Emergency Hospital in 2023 and 2024 was positive due to:

1. The budget allocation for BP 0068, comparing the beginning of the year and the end of 2023 and 2024, was increased by 3%.
2. The execution of the budgetary goals for BP 0068 in 2023 was 98% and in 2024 it was 100%.
3. The execution of the physical goals for BP 0068 was 100% in both years.
4. The relationship between the execution of budgetary goals and the execution of the physical goals for BP 0068 in 2023 and 2024 had a non-normal distribution, so the Wilcoxon test was chosen. For 2023, the test value was 0.067. Considering a P value >0.05, it is concluded that the relationship between budget and physical targets is not statistically significantly different, although there is a trend toward significance (toward a difference), primarily because there was lower budget execution (98%) compared to the execution of physical targets (100%). For 2024, there is no difference in the execution of budget and physical targets, since both were 100%, and they are statistically identical.

Conclusion

The José Casimiro Ulloa Emergency Hospital is a highly complex hospital specializing in medical and surgical emergencies in Peru, a country highly vulnerable to natural disasters. Due to the nature of the hospital, its operational continuity in disaster scenarios is vitally important, making disaster risk management (DRM) critical. The DRM program at the HEJCU in 2023 and 2024 was implemented through Budget Program 068 "Vulnerability Reduction and Disaster Emergency Response" a public results-based management strategy. Implementation has been successful, as the allocated budget was spent on the purposes, outputs, and activities planned in Budget Program 0068. The execution of budgetary and physical goals was almost 100% in 2023 (98% and 100%, respectively), and in 2024, both goals were fully executed. The importance of these findings allows us to affirm that public strategies for budget programs in Peru allow the budget to be organized to achieve results aligned with a purpose. Effective management allows the budget to be used to achieve the goals set forth in its purpose. It provides the hospital with greater capacity to respond to disasters, potentially saving many lives when they occur.

Conflicts of interest related to this abstract: None.

P-1008

Effectiveness of the Onboarding Program in the Clinical Competency of Newly Hired Staff Nurses in a Tertiary Hospital

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Introduction

Onboarding programs play a vital role in equipping newly hired nurses with the necessary skills and confidence to provide high-quality and safe patient care. These programs bridge the

gap between academic training and real-world clinical practice, enhancing patient safety, nurse retention, and job satisfaction. Given the global challenges in nurse retention and workload management, structured onboarding is essential for ensuring competency in diverse healthcare settings. This study aims to assess the clinical competency of newly employed nurses at Manila Doctors Hospital (MDH) and develop a tailored onboarding program to enhance their integration and performance in clinical practice.

Aim/Objective(s)

This study aims to assess the clinical competency of newly hired nurses at Manila Doctors Hospital (MDH) following their onboarding program. Specifically, it seeks to determine their demographic profile in terms of age, sex, and area of deployment. It also aims to evaluate the level of clinical competency of newly hired nurses one month and three months after completing the onboarding program. Additionally, the study will analyze whether there is a significant difference in their clinical competencies between these two time points. Furthermore, it will examine the relationship between clinical competency levels and demographic variables. Based on the findings, the study intends to propose enhancements to the current onboarding program to improve nurse competency and ensure the delivery of high-quality patient care.

Methods

This study employed a quasi-experimental research design to evaluate the clinical competency of newly hired nurses at Manila Doctors Hospital. Data were gathered using a cross-sectional questionnaire and analyzed through statistical methods. The research took place in a 300-bed tertiary hospital in Manila, focusing on nurses hired between December 2023 and January 2024. Head Nurses conducted competency evaluations, and total enumeration sampling was used, resulting in a final sample of 40 participants. The study intervention was an eight-week structured onboarding program that combined theoretical learning, simulation-based training, and supervised clinical practice. Clinical competency was measured using an assessment tool aligned with the Philippine Nursing Practice Standards, with evaluations conducted one and three months post-onboarding. Ethical guidelines, including informed consent and data confidentiality, were strictly followed. Data analysis was performed using SPSSv26, applying descriptive statistics, Pearson R correlation, and T-tests to determine competency progression and significant relationships.

Results

The study assessed the clinical competence of newly hired nurses at Manila Doctors Hospital following a structured onboarding program. The majority of participants were aged 20–25 years (83%) and female (90%), with diverse hospital unit assignments. Evaluations conducted at one and three months post-onboarding revealed significant improvements in clinical competencies, with initial ratings classified as "Very Low" advancing to "Low" across multiple domains. Statistical analysis confirmed that demographic factors, including age, gender, and area of deployment, had no significant impact on competency improvement, indicating the program's broad applicability. The findings highlight the importance of interdisciplinary teamwork, evidence-based practice, and structured training to support new nurses in adapting to complex healthcare settings. The study suggests refining onboarding programs with targeted skill development, mentorship, and continuous assessment to sustain competency growth and enhance patient care quality.

Conclusion

The study concludes that a structured onboarding program significantly enhances the clinical competence of newly hired

nurses across various domains of nursing practice. While there were notable improvements in clinical

The findings underscore the vital role of structured onboarding programs in fostering professional development, enhancing nursing competencies, and improving overall nursing practice. The results provide valuable insights for refining onboarding programs to address the evolving needs of the nursing workforce. By continuously improving these programs, healthcare institutions can uphold high standards of patient care and adapt to the dynamic demands of modern healthcare environments.

Conflicts of interest related to this abstract: None

P-1010

Enhancing Healthcare Workforce Engagement and Communication through a Free, Structured In-Company English Training Program

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Introduction

In an increasingly globalized healthcare environment, effective communication is crucial for patient care and professional collaboration. Language barriers often hinder health care professionals from engaging in research discussions, presenting at international congresses and participating fully in global medical dialogue. To address these challenges, our tertiary hospital in Catalonia has developed a structured English training program tailored specifically for healthcare professionals. Running continuously for 17 years, it is, to our knowledge, the only institutionalized English program of its kind in Spain. The program's success lies in its capacity to enhance workforce engagement, improve professional skills and support international collaboration by improving English proficiency across various healthcare disciplines.

Aim/Objective(s)

This study aims to evaluate the impact of a long-term, structured in-company English training program designed to improve communication and workforce engagement among healthcare professionals. The primary objectives include: Assessing improvements in language proficiency and communication skills; Exploring the program's impact on professional development, confidence in public speaking and international collaboration; Investigating how the program contributes to workforce retention and interdisciplinary collaboration within the healthcare setting. Ultimately, we aim to highlight the program's value as a model for other institutions seeking to enhance the language capabilities and global competence of their workforce.

Methods

The program consists of regular English courses tailored to various proficiency levels, monthly bibliographical sessions on specialty-specific topics and individualized support for scientific writing, abstract preparation and presentations. Additionally, we offer translation and interpretation services for academic and clinical documents. Over the past 17 years, the program has engaged between 70 and 104 students per year, with 73 participants currently enrolled, the majority healthcare professionals. Five hospital services conduct bibliographical sessions monthly, with an average of 10 professionals presenting in congresses/workshops each year. Last year alone, 18 scientific articles were translated and 48 presentations were corrected and rehearsed. Data collection is conducted via surveys, which assess participants' improvements in presentation skills, confidence and engagement in international forums. Feedback from these surveys will inform ongoing program adjustments.

Results will be shown in June, providing a comprehensive evaluation of the program's impact based on a survey to evaluate these aspects systematically.

Results

Though data collection is ongoing and results will take time to materialize, early feedback indicates that the program has had a positive impact on both language proficiency and workforce engagement. Preliminary survey results show significant improvements in participants' confidence in presenting research and engaging in international scientific discussions. The structured, multidisciplinary nature of the program has facilitated increased participation in international congresses, with an average of 10 professionals presenting annually. Additionally, five hospital services currently conduct monthly bibliographical sessions, strengthening scientific communication across specialties. Participants report enhanced communication skills, with many stating that the program has helped them overcome barriers to presenting in English and collaborating internationally. Furthermore, last year, 18 scientific articles were translated and 48 presentations were corrected and rehearsed, supporting professionals in disseminating their work globally. Additionally, interdisciplinary collaboration across departments has been fostered through the regular classes. The program's success in engaging professionals across different disciplines has contributed to a culture of continuous learning and professional growth within a positive working atmosphere. These early signs suggest that the program is a valuable tool for enhancing the global visibility of our healthcare professionals, networking opportunities and their ongoing professional development.

Conclusion

After 17 years, the program has proven to be a sustainable and impactful initiative for workforce engagement and professional development. With participation ranging from 70 to 104 professionals annually, the integration of structured language training with specialty-focused bibliographical sessions and scientific communication support has resulted in higher international visibility for our professionals, improved public speaking confidence and fostered greater interdisciplinary collaboration. As healthcare systems increasingly demand multilingual competencies, our approach serves as a model for other institutions aiming to invest in workforce retention and professional growth. The program's support in translating an average of 18 scientific articles annually and refining 48 presentations has contributed to the dissemination of research beyond linguistic barriers. While comprehensive results are still being gathered, early feedback suggests the program has significantly enhanced communication and collaboration within our hospital. By continuing to offer free in-company training, we have created a culture of continuous learning and professional growth, encouraging healthcare professionals to engage in global healthcare dialogues. Ultimately, our program not only addresses an educational gap but also ensures that healthcare professionals are prepared to excel in an international medical landscape, advancing both their careers and the institution's global reputation.

Conflicts of interest related to this abstract: None

P-1011

Environmental co-benefits of community partnerships

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Introduction

Efficient and holistic care delivery requires leaders to maximize the impact of the resources and partnerships available to gain the best possible outcomes. Thus, considering and elevating co-benefits in decision making can be valuable to showcase the complete value of an initiative. The Rush Equity Framework includes addressing social and structural determinants of health to improve longevity and quality of life on Chicago's West Side through an anchor mission strategy. Rush has been channeling the institution's purchasing power to improve economic vitality and combat historical disinvestment on the West Side to address the root causes of poor health. These efforts directly confront many community social determinants of health, however this work also promotes positive environmental drivers of health.

Aim/Objective(s)

1. To identify environmental co-benefits of ongoing and strategic community partnerships Rush developed to achieve the institution's equity goals.
2. To incorporate social and environmental drivers of health into decision-making to improve outcomes.
3. To promote future health equity partnerships that also contribute to planetary health.

Methods

This poster will focus on 2 different initiatives: food diversion from landfill and eco-friendly, local laundry. Using the Greenhouse Gas Protocol and the Health Care Emissions Impact Calculator from Practice Green health, greenhouse gas emissions were successfully reduced by both efforts. Additional environmental calculations (e.g., water savings, natural gas savings) will be analyzed from utilities data or extrapolated based on machine specifications and use. Further, qualitative benefits will also be researched through literature review.

Results

1. Based on preliminary calculations, the food diversion from landfill program (including donation and composting) has avoided 87% of greenhouse gases associated with food waste (62 MTCO₂e) versus landfilling (8 MTCO₂e).
2. For the local laundry program, there is an approximate 41% decrease of greenhouse gas emissions with the new Rush laundry transit and 22.5 million gallons of water saved per year with the washers at the state-of-the-art facility (utilizes 0.5 gallon/lb of linen compared to 3 gallons/lb of linen). Additional environmental wins are currently being quantified.
3. Analysis of results will be complete by end of May 2025.

Conclusion

Based on the partnerships presented, there are opportunities to both achieve Rush's equity strategy and reduce Rush's environmental impact. Additional data collection can help assess the value of future community collaborations and inform decision-making and planning to address the social and environmental drivers of health. Moreover, future strategic partnerships between health care and community organizations can provide a holistic means for achieving social and environmental equity.

Conflicts of interest related to this abstract: None.

P-1012

Establishing a Korean-style Collaborative Care Model in a Middle Eastern Integrated Multispecialty Hospital: Early Insights from KMC

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Introduction

Multispecialty hospitals provide comprehensive healthcare services by fostering collaboration between different medical disciplines. However, integrating multiple specialties in a newly established healthcare facility presents significant challenges, including differences in medical philosophies, workflow standardization, and regulatory adaptation. KMC, as the first Korean-style multispecialty hospital in the Middle East, was established with a unique mission: to combine the expertise of Korea's most reputable hospitals and deliver high-quality Korean healthcare services abroad. This collaboration required not only interdepartmental alignment but also the integration of international medical professionals, administrative staff, and management teams – many of whom come from diverse cultural and linguistic backgrounds. As a result, overcoming cultural and operational barriers while ensuring clinical excellence remains an ongoing challenge. This study evaluates the feasibility of implementing such a model in a newly established hospital and its early impact on patient care quality and operational efficiency.

Aim/Objective(s)

1. Assess the feasibility and challenges of integrating multiple specialties into a cohesive care system within a newly established hospital.
2. Evaluate the operational efficiency of the referral and co-management system through measurable indicators.
3. Analyze patient and provider feedback regarding the effectiveness of the multidisciplinary collaborative framework.
4. Identify key challenges in overcoming cultural, linguistic, and administrative barriers while maintaining high clinical standards.
5. Measure patient satisfaction and perception of Korean-style healthcare in the Middle East.

Methods

- Analysis of referral patterns among KMC's specialty departments and partner hospitals to assess interdepartmental coordination efficiency
- Surveys conducted among patients and healthcare providers to measure satisfaction with care coordination and treatment outcomes.
- Case study reviews of early patient experiences under the integrated model, focusing on those requiring multidisciplinary interventions.
- Continuous adjustments were made post-launch to address challenges in determining priority diagnostic tests, optimizing referral pathways, and reducing unnecessary delays in patient management.

Evaluation of communication barriers between Korean and international staff, and assessment of efforts to enhance cross-cultural collaboration through structured training programs.

Results

- Over 60% of outpatients received multidisciplinary care, with musculoskeletal patients demonstrating an 85% utilization rate of orthopedic-rehabilitation-traditional medicine collaboration, optimizing patient recovery outcomes.
- 78% of healthcare providers reported that the structured collaboration framework improved their ability to coordinate

patient care, reducing unnecessary repeat tests and enhancing workflow clarity.

- 85% of patients expressed satisfaction with the accessibility and continuity of care within KMC's multidisciplinary system, citing reduced wait times and improved treatment pathways.
- The initial implementation required significant coordination efforts, including more than 30 interdepartmental meetings, to establish standardized workflows and ensure smooth interdisciplinary collaboration. Aligning the perspectives and treatment approaches of the four institutions was a challenge, requiring ongoing refinements.
- Adapting to cultural and linguistic differences among Korean medical staff, international healthcare professionals, and administrative teams was another major hurdle. Structured cultural competency training was introduced to address these issues, but further improvements are needed.
- Patients benefited from exposure to advanced treatment methods previously unavailable in the region, leading to a positive reception of Korean-style healthcare.

Conclusion

KMC's multidisciplinary care model has demonstrated feasibility and positive early outcomes in improving patient accessibility, care quality, and operational efficiency. The structured collaboration between specialties has resulted in a more efficient referral system, reduced delays in specialist consultations, and enhanced patient satisfaction. However, cultural adaptation remains a crucial challenge. While early efforts in cross-cultural training and workflow standardization have shown promise, continuous improvements are needed to ensure long-term success. Additionally, patient responses indicate strong interest in Korean medical practices, highlighting opportunities for further expansion and refinement of Korean-style healthcare abroad. Future research should focus on long-term patient outcomes, cost-effectiveness, and further integration of digital health solutions to enhance multidisciplinary collaboration.

Conflicts of interest related to this abstract: None

P-1013

Evolving Contemporary Leadership Strategies in Healthcare: Enhancing Workforce Engagement, Organizational Resilience, and Patient-Centered Care

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Introduction

The rapidly evolving healthcare landscape demands adaptive leadership strategies to navigate workforce challenges, regulatory shifts, and technological advancements. Traditional leadership models often fail to foster collaboration, innovation, and resilience, which are crucial for modern healthcare organizations. The University of Miami Department of Otolaryngology recognizes the critical role of leadership in driving workforce engagement and improving patient outcomes. Research shows that transformational and participatory leadership positively impact staff retention, satisfaction, and healthcare efficiency (Williams et al., 2023). This study explores contemporary leadership strategies that motivate healthcare professionals, encourage teamwork, and enhance decision-making. By integrating emotional intelligence, critical thinking, and digital health leadership, organizations can create a sustainable and resilient workforce. The findings aim to guide healthcare administrators, policymakers, and educators in fostering leadership models that prioritize employee well-being and patient-centered care while ensuring long-term operational success.

Aim/Objective(s)

This research aims to: Analyze how leadership strategies have evolved to address modern healthcare challenges. Evaluate the impact of transformational and participatory leadership on workforce engagement and organizational resilience. Identify evidence-based leadership practices that enhance staff retention, job satisfaction, and patient outcomes. Propose innovative leadership models that support career development, digital transformation, and sustainable healthcare delivery. By assessing leadership frameworks that prioritize collaboration, emotional intelligence, and inclusivity, this study provides actionable strategies to improve healthcare management. The goal is to inform leaders, administrators, and educators on effective approaches for cultivating engaged, adaptable, and high-performing teams. The research highlights how leadership styles directly influence employee motivation, operational efficiency, and patient-centered care.

Methods

A mixed-methods approach was employed, combining quantitative surveys and qualitative interviews with health care leaders, administrators, and frontline professionals from the University of Miami Department of Otolaryngology and affiliated institutions. Surveys measuring leadership effectiveness, job satisfaction, and staff retention. Focus groups exploring leadership perceptions and workplace experiences and Performance metrics analysis assessing patient satisfaction scores and workforce retention trends. Data analysis involved: Statistical regression models to correlate leadership styles with retention and patient outcomes. Thematic coding of qualitative responses to identify leadership challenges and success factors. Comparative analysis was conducted between organizations implementing transformational and participatory leadership models versus those using traditional leadership approaches. The study assessed the impact of mentorship, digital leadership skills, and inclusive decision-making on healthcare workforce stability.

Results

The study revealed that organizations adopting transformational and participatory leadership models experienced:

- 20% higher staff retention compared to those using traditional leadership styles (Williams et al., 2023).
- 15% increase in patient satisfaction scores, linked to improved workforce engagement.
- Stronger organizational resilience, with leaders reporting higher adaptability to regulatory and technological changes.

Conclusion

This abstract demonstrates that transformational and participatory leadership approaches significantly enhance healthcare workforce engagement, retention, and patient-centered care. By implementing leadership models focused on adaptability, inclusivity, and digital transformation, organizations can reduce staff turnover, improve patient outcomes, and drive operational efficiency. The findings advocate for leadership training programs tailored to healthcare administrators and clinical managers, equipping them with emotional intelligence, mentorship skills, and data-driven decision-making abilities. Additionally, this study contributes to policy recommendations by highlighting workforce development initiatives that align leadership strategies with sustainable healthcare delivery. The University of Miami Department of Otolaryngology serves as a model for fostering resilient, forward-thinking leadership that prioritizes employee well-being and continuous innovation. These insights can inform healthcare institutions globally on adopting leadership strategies that enhance workforce satisfaction, organizational resilience, and quality patient care.

Conflicts of interest related to this abstract: None

P-1015

Financial Incentives and Workforce Stability: Examining the Effects of Policy Changes on Contract Physician Remuneration in a Public Medical Center

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Introduction

Contract physicians (CPs) play a crucial role in bridging medical resource gaps and improving healthcare accessibility and service quality. Most Asian healthcare institutions operate within a closed system, relying primarily on full-time attending physicians for workforce stability. However, hospitals also employ CPs to address specific medical needs, including transmitting specialized expertise, mitigating physician shortages, performing self-pay procedures, and allowing retired physicians to continue providing care. The Coronavirus Disease 2019 (COVID-19) pandemic significantly disrupted hospital operations, workforce allocation, and healthcare service delivery, highlighting the need for leadership-driven policies to sustain workforce stability. This study examines how external hospital environments and internal policy interventions have shaped CPs' employment and remuneration trends from 2016 to 2024 in a public medical center. The goal is to continuously strengthen CPs' development policies and enhance their role in optimizing medical resource allocation and service quality.

Aim/Objective(s)

This study aims to analyze the employment and remuneration of CPs to better understand compensation trends across different healthcare systems. Specifically, the objectives are: To examine the employment and remuneration structure of CPs. To compare remuneration differences between CPs from the Veterans General Hospital (VGH) system and those in non-VGH systems. To assess remuneration trends among contracted physicians across different healthcare systems from 2016 to 2024. By addressing these objectives, this study aims to provide insights into the remuneration structure of CPs, analyze trends across different healthcare systems, assess the impact of COVID-19 and policy changes on remuneration, and offer evidence-based recommendations for optimizing workforce stability and financial sustainability in healthcare management.

Methods

This study focuses on CPs who received remuneration, regardless of their institutional affiliation. CPs may come from the Veterans General Hospital (VGH) system or its affiliated branches, or the non-VGH system, such as private hospitals and clinics. This study utilized historical CP employment data from Taichung Veterans General Hospital, a public medical center

ranked 99th in the Newsweek World's Best Smart Hospitals 2025. The analysis focused on the employment structure and remuneration distribution of CPs from 2016 to 2024, distinguishing between the VGH and non-VGH systems. Data were categorized by pre- and post-COVID-19 periods, hiring status, contract types, and departments. The Mann-Whitney U test was applied to assess remuneration differences ($p < 0.05$), using IBM SPSS Statistics 22. Additionally, trend inflection points in remuneration distribution were analyzed. All remuneration figures were converted to U.S. dollars using the 2024 average exchange rate (1 USD = 32.111 NTD).

Results

Before COVID-19 (2016–2019), remuneration between the two systems showed no significant difference ($P = 0.099$). However, after the pandemic (2020–2024), remuneration for VGH system CPs increased ($\$1,037 \pm 1,519$), while it declined for Non-VGH CPs ($\$542 \pm 857$, $P < 0.001$). Medical report documentation CPs had the highest remuneration (VGH: $\$1,719 \pm 2,177$ vs. Non-VGH: $\$839 \pm 950$, $P < 0.001$). Rehired CPs earned more than new hires. Among specialties, radiology, neurology, and cardiovascular centers in the VGH system had significantly higher remuneration ($P < 0.001$). According to Figure 1, CP numbers increased from 37 in 2016 to 83 in 2024, despite a drop to 27 in 2020 due to COVID-19. VGH system CPs' remuneration peaked in 2021 before stabilizing, while non-VGH CPs experienced a decline from 2019 onward. Overall, VGH system CPs had higher and more stable remuneration, particularly in specialized fields post-COVID-19.

Conclusion

This study highlights significant differences in the remuneration and hiring trends of CPs between the VGH and non-VGH systems from 2016 to 2024, particularly during and after the COVID-19 pandemic. VGH system CPs consistently received higher remuneration, especially in specialized fields such as radiology, neurology, cardiology, and otorhinolaryngology. The COVID-19 pandemic significantly impacted hiring trends, with CP numbers dropping to 27 in 2020 before recovering to 83 in 2024. However, remuneration trends diverged: remuneration for VGH system CPs peaked in 2021 but later stabilized, while remuneration for non-VGH CPs began declining in 2019 and plateaued thereafter. These trends highlight the impact of policy changes, including the removal of the upper remuneration limit, a full remuneration adjustment (increase from 95% to 100%), and an increase in the retirement bonus rate for retired CPs in the VGH system. In conclusion, strategic remuneration policies can enhance workforce stability. For health service improvement, policies ensuring competitive and equitable pay can help retain skilled physicians, particularly in specialized fields. Further research is needed to evaluate the long-term sustainability and effectiveness of these policies across different healthcare systems.

Conflicts of interest related to this abstract: None

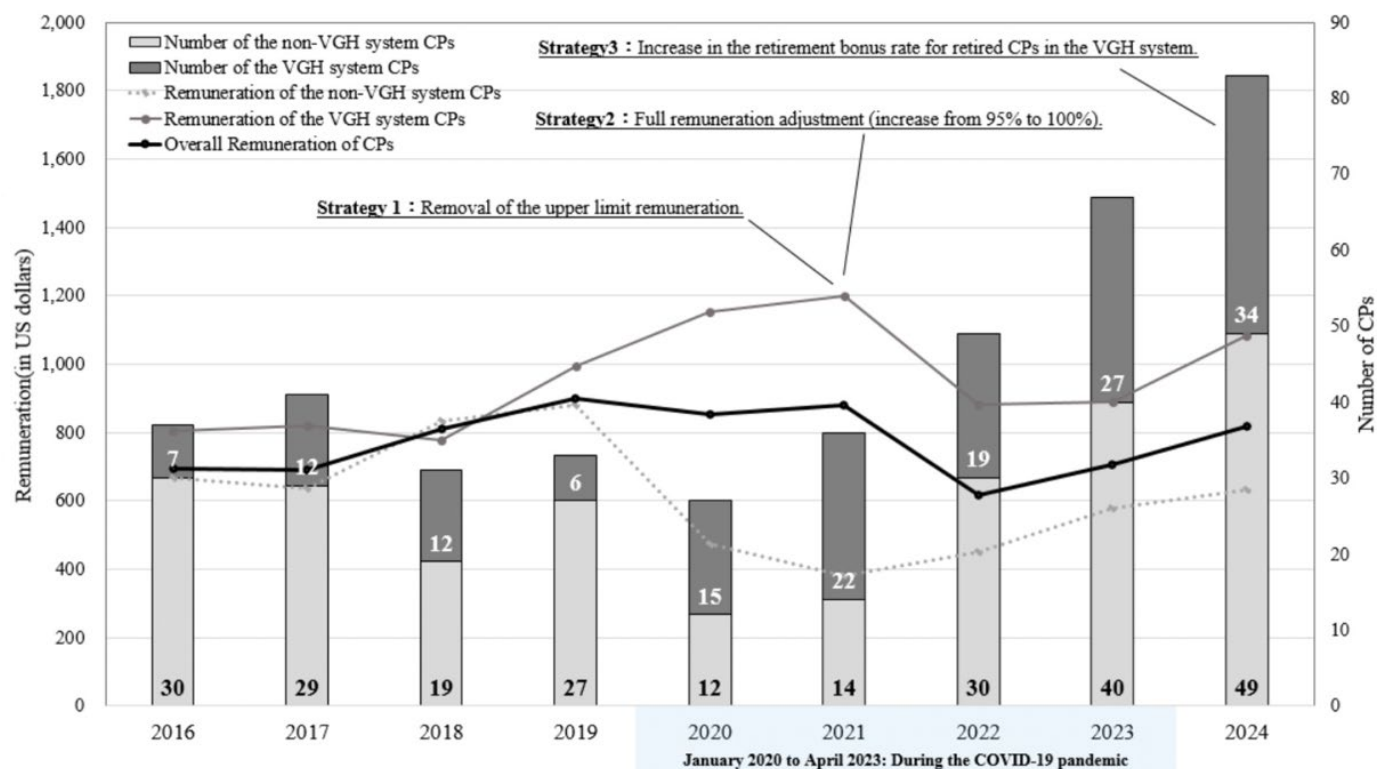


Figure 1. CPs Workforce and Remuneration Trends in the VGH and Non-VGH Systems (2016–2024)

P-1016

Fostering a Culture of Evidence-Based Practice: The Research and Implementation Care Lab Initiative

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Introduction

Integrating evidence-based practice (EBP) among nursing and allied health professionals is essential for improving care quality. Consequently, there is a growing emphasis on fostering EBP and implementing effective care practices. In the French-speaking region of Switzerland, bachelor's degree programs have included EBP and research courses since 2012. However, only a limited number of professionals pursue advanced degrees or acquire extensive research expertise. This gap is particularly significant as clinical departments often lack the necessary resources and support to translate EBP into routine practice.

Aim/Objective(s)

To address this need, the Care Directorate established the Research and Implementation Care Lab (LRIS) to provide guidance, resources, and structural support for EBP integration.

Methods

The establishment of the LRIS was inspired by Melnyk and Fin-eout-Overholt's seven critical steps of EBP, specifically "Step 0: Cultivating a spirit of inquiry." This step consists in promoting a culture and an ecosystem that is supportive of EBP.

Results

The process of implementing the LRIS involved the following phases: (1) Decision to establish the LRIS, (2) Identification of eligible candidates for LRIS and their engagement, (3) Clarification of roles and responsibilities, (4) Reflection on the missions and activities, (5) Development of an intranet site and dedicated email address and, (6) Dissemination and promotion of LRIS services.

Conclusion

Aligned with the strategic operational plan of the Care Directorate, the LRIS will become the consulting structure for nursing and health allied professionals, facilitating the transfer of knowledge from research to clinical practice.

Conflicts of interest related to this abstract: None.

P-1017

Fostering Resilience: A Leadership Framework for Future-Proof Hospitals

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Introduction

In the face of growing challenges, including unpredictable public health crisis, economic pressures, workforce shortages, and rapid technological advancements, hospitals worldwide are being called to develop robust organizational resilience. This resilience allows healthcare systems to adapt to disruption, continue to deliver high-quality care under stress, and ensure long-term sustainability. The evolving healthcare landscape de-

mands that hospital leadership not only react to crisis but proactively build resilience into their operational, leadership and care delivery strategies.

Resilience in healthcare settings extends beyond crisis management – it encompasses a hospital's ability to evolve maintain staff-wellbeing, enhance patient safety, and foster an environment of continuous improvement. Leadership is at the heart of this transformation, as effective leaders must drive both strategic vision and daily practices that support adaptive, resilient organization.

Aim/Objective(s)

1. Understanding Healthcare Resilience: Objective: Define healthcare resilience and explore its critical importance in adapting to and overcoming both expected and unforeseen challenges, such as pandemics, staffing shortages, and burnout.
2. Identifying Key Strategies to Foster Resilience in Healthcare Teams: Objective: Present actionable strategies to strengthen individual and team resilience, including improving communication, promoting mental health and well-being, and creating sustainable work environments for healthcare professionals.
3. Developing a Culture of Resilience within Healthcare Institutions: Objective: Discuss how physicians can drive a culture of resilience, emphasizing collaboration, resource optimization, and continuous learning to ensure long-term sustainability and adaptability.

Methods

This portion of the research represents a literature review based qualitative study of organizational resilience in hospitals, drawing from a wide array of sources including academic research, case studies, and industry reports to identify themes and insights that inform the development of resilient healthcare practice (this is part 1 of a 2 part applied research study on developing a working framework for organizational resilience in the acute care setting).

Results

Despite widespread disagreement of the definition and context of organizational resilience within the acute care setting, there is consistent agreement that a framework for organizational resilience is needed to support leadership in the necessary transformation to thrive through any kind of disruption or crisis.

Conclusion

The synthesis of existing literature highlights that organizational resilience in hospitals is not a singular concept but rather a multifaceted strategy that must be adapted to the specific context of each institution. Resilience is built on effective leadership, workforce management, resource optimization, technological integration, and crisis preparedness. These elements must be embedded within a cohesive framework that supports not only survival during disruptions but also long-term sustainability and continuous improvement in healthcare service delivery. This framework can significantly contribute to health service improvement by creating a resilient hospital system that is better equipped to respond to both planned and unforeseen disruptions. By fostering a sustainable environment where leadership, workforce engagement, and technology work in synergy, the quality of care can be enhanced, even in the face of resource limitations. With a clear resilience strategy in place, hospitals are more likely to deliver consistent, high-quality care to their communities, ensuring improved patient outcomes and satisfaction. The approach presented here also provides a model that can be adopted by other healthcare institutions across various geographical contexts. By tailoring these resilience strategies to the specific needs of rural, urban, or regional settings, hospitals can improve their overall operational efficiency and community impact.

Conflicts of interest related to this abstract: None

P-1019

From Feedback to Action: Sustaining Leadership Change Through Cost-Effective MLQ Workshops

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Introduction

Leadership development programmes in healthcare often struggle to create lasting behavioural change, contributing to staff burnout, high turnover, and compromised patient care. In high-stress environments like mental health and addiction hospitals, passive-avoidant leadership can exacerbate operational inefficiencies and workforce disengagement. At our 300-bed Mental Health and Addiction Hospital, traditional HR interventions have identified leadership gaps, yet sustaining improvements remains a challenge. Standard training models often fail to address the nuanced, department-specific stressors that shape leadership behaviours. This study evaluates scaffolded MLQ workshops as a cost-effective, culturally responsive solution to institutionalising transformational leadership. By integrating structured role-plays and peer feedback loops, we aim to bridge the gap between leadership assessment and sustained behavioural change, ultimately enhancing staff engagement and improving patient outcomes.

Aim/Objective(s)

The aim of this study is to evaluate the effectiveness of scaffolded MLQ workshops in sustaining transformational leadership within high-stress healthcare environments. Specifically, the study seeks to:

1. Identify leadership gaps through MLQ 360 assessments, focusing on passive-avoidant and transformational behaviors.
2. Implement a structured intervention using scaffolded role-plays and peer feedback loops to reinforce leadership development.
3. Assess the impact of these workshops on leadership behavior change, cost-effectiveness, and staff engagement.
4. Explore the alignment of this models theory to support leadership growth within the zone of proximal development.

Methods

This study employed a QUAN→QUAL sequential mixed-methods design to evaluate the impact of scaffolded MLQ workshops on leadership development. Thirty department heads from a 300-bed mental health hospital participated.

Intervention:

1. Pre/Post MLQ 360 Assessments – Measured passive-avoidant (Laissez-faire) and transformational (Inspirational Motivation) behaviors.
2. 6-Hour Workshop – Included scaffolded role-plays (e.g., workflow redesign) and peer feedback loops to normalise leadership growth.
3. Focus Groups – Explored experiential learning themes.

Results

The intervention significantly improved leadership behaviors, reducing passive-avoidant tendencies and enhancing transformational leadership.

Quantitative Findings:

- Passive-avoidant leadership scores decreased by 22% (1.4 → 1.1, $p < 0.05$, $d = 0.62$).
- Transformational behaviors increased by 35% (2.8 → 3.4, $p < 0.01$).
- 80% of participants reported that peer feedback reduced defensiveness, fostering openness to leadership development.

- Role-plays enabled “muscle memory for proactive decision-making,” enhancing real-world leadership application.
- Staff highlighted trust and departmental customisation as key drivers of engagement and effectiveness.

Implications:

Cost-effectiveness: The workshop model reduced facilitator hours by 60% (8 vs. 20 hours) compared to traditional training.

Scalability: The structured, feedback-driven approach aligns with Vygotsky's scaffolding theory, supporting leaders' development within their zone of proximal development (ZPD). These findings demonstrate the effectiveness of culturally tailored, interactive leadership training in sustaining behavioral change, reinforcing the need for department-specific interventions to drive long-term impact.

Conclusion

Scaffolded MLQ workshops offer a structured, cost-effective solution to sustaining leadership development in high-stress healthcare environments. By integrating peer feedback loops and role-play exercises, this intervention fosters transformational leadership, reducing passive-avoidant behaviors and improving staff engagement. The model's cost-effectiveness – achieving significant behavioral change with 60% fewer facilitator hours – demonstrates its scalability for broader healthcare systems. Its alignment with Vygotsky's scaffolding theory ensures leaders develop within their zone of proximal development, enabling sustained growth. This approach bridges the gap between HR leadership assessments and long-term behavioral change, reinforcing the importance of customised, evidence-based training. Future research should explore multi-site implementation and assess long-term retention, ensuring a lasting impact on workforce stability, patient care efficiency, and leadership sustainability.

Conflicts of interest related to this abstract: None

P-1020

Future Proofing the Healthcare Workforce: Career Architecture Program

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Introduction

One of the most pressing challenges facing MMC and the global healthcare industry is the significant turnover of nurses and allied health professionals. This talent drains places immense strain on the hospital, resulting in the loss of experienced staff and the need for continuous recruitment and training efforts. Developing a comprehensive career framework to address these needs is vital, albeit complex, due to the diverse array of specializations within these fields.

Aim/Objective(s)

The objectives of the Career Architecture Program are the following:

1. Attract more talents.
2. Create and implement a retention program so employees would have a clearer understanding of their career path.
3. Enhance our ability to leverage and develop our top performers and high potential employees through talent development.
4. We can also proactively enhance our succession planning.
5. Easily identify talent/skills gaps.
6. Continuously monitor market competitiveness.
7. Provide the hospital with holistic and clear standards for promotion.

Methods

Before designing the program, we conducted a thorough job evaluation for all roles, aligning them with the job classification framework. We considered key factors such as knowledge, skills, competencies, training, certifications, and productivity measures. By examining the complexity of each role, we gained insights to effectively implement the program.

Results

The Career Architecture Program at Makati Medical Center has effectively addressed challenges for Registered Nurses and Allied Health Professionals. By providing clear career paths and professional development opportunities, MMC has reduced turnover and improved job satisfaction. Maintaining a flexible, employee-centered approach is crucial for long-term success. MMC is well-positioned to continue providing high-quality healthcare while nurturing a committed workforce.

Conclusion

In VUCA (Volatility, Uncertainty, Complexity, Ambiguity) world, having an established career framework is important for future-proofing of workforce. The Career Architecture Program provides clear career paths and opportunities for employees. By identifying critical skills and knowledge gaps, it also ensures that our workforce possesses the necessary competencies for the future. This helps individuals remain competitive and relevant in a constantly evolving landscape.

Conflicts of interest related to this abstract

None

P-1021

Future-Ready: Empowering Talent in AI-Enhanced Healthcare

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Introduction

The healthcare industry is shaping up differently as AI and advanced technology start to revolutionize patient care. Here at Medland Hospital in Zambia (and most definitely across most hospitals), that comes with a challenge. While we embody future-driven facilities, we struggle with a shortage of specialized local talent. As we introduce AI-driven solutions, the big question is: How do we engage, train, and retain our healthcare professionals, ensuring they grow with the technology rather than feel replaced by it?

Aim/Objective(s)

This project explores how hospitals can balance AI adoption with workforce retention. The goal is to create a model where AI enhances, not threatens, careers – one that empowers healthcare workers through training and clear growth opportunities.

Methods

A mixed-method approach was employed and data was collected from a diverse group of healthcare professionals across various specialties. That involved combining interviews and job satisfaction surveys to get a good overall assessment of how the employees felt.

Results

Our findings show that AI can be a game-changer for job satisfaction when implemented correctly. Employees who receive upskilling opportunities feel more valued and secure in their roles. However, when AI is introduced without clear policies, it creates insecurities, which leads to higher turnover rates. So framing is the key here. Staff are more likely to stay and feel

confident in environments where AI is viewed as a support system rather than a replacement.

Conclusion

To align healthcare workforces with a looming AI-dominated future, institutions must take a proactive, people-first approach to AI integration. Investing in ongoing education and AI-driven skill-building ensures that professionals feel empowered rather than threatened. Medland Hospital's case brings to light the importance of clear policies and a supportive work culture in mitigating workforce attrition. Through aligning AI advancements with human-centered strategies, hospitals can create a sustainable balance between innovation and workforce stability, thus securing the future of healthcare talent.

Conflicts of interest related to this abstract: None

P-1022

Governance and Leadership in healthcare to promote quality of medical services – practical recommendations for providers, insurers and authorities

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Introduction

Governance and leadership are crucial in ensuring the quality of medical services. Despite increasing recognition of their importance in research, there remains a gap in understanding which measures in governance and leadership practices effectively enhance healthcare quality. While international research has emphasized their significance in improving patient outcomes and reducing healthcare costs, practical and evidence-based recommendations remain underexplored. There is a need for a systematic overview and structured guidance on how governance and leadership at various levels – healthcare providers, insurers, and authorities – can drive quality improvement. This study addressed these gaps by identifying effective key governance and leadership strategies and formulating actionable recommendations to enhance governance and leadership effectiveness in healthcare settings.

Aim/Objective(s)

The primary objective of this project was to generate a systematic overview of effective governance and leadership measures that improve the quality of medical services and develop a set of evidence-based recommendations to strengthen governance and leadership within the healthcare system. Specifically, the research sought to identify effective measures transferable into practice and empower individuals and organizations in leadership and governance roles to improve healthcare service quality. The study aimed to create actionable recommendations tailored to the Swiss healthcare context by synthesizing existing literature and consulting panelists from national organizations within the healthcare system. The results are intended to guide enhancing leadership competencies, fostering a culture of continuous improvement, and ensuring effective governance in healthcare organizations.

Methods

This study employed a mixed-methods approach, combining a systematic literature review (Rapid Review) with an adapted Delphi process to validate findings with experts. The Rapid Review followed the updated recommendations for the Cochrane rapid review methods. The Delphi process engaged panelists from various professional associations and organizations to assess the recommendations' relevance and feasibility. First, 11 panelists from various organizations within the healthcare system participated in an online survey and rated the derived

recommendations regarding their relevance and practicability. Recommendations with relevance and practicability above 80% were accepted and recommendations below 60% were rejected. Recommendations in between were discussed with the panelists at an on-site workshop to reach consensus in favour of acceptance or rejection after revision.

Results

Overall, 32 peer-reviewed studies and 27 guidelines from national and international sources were included, focusing on governance and leadership interventions linked to quality of medical services. Most studies originated from the USA, Australia and Europe (e.g. UK or Norway). The study's findings were structured across eight thematic areas: leadership personnel, working conditions, stakeholder participation, monitoring, communication & culture, evidence-based practice, inter-professional collaboration, and incentive systems. The literature review identified 67 potential recommendations for improving leadership and governance in healthcare. The panelists deemed 45 of these relevant and practical. The five most relevant recommendations include: (1) Existing financing structures are evaluated and, if necessary, adapted in the event of a change in requirements regarding quality assurance and improvement, (2) standardizing and increasing transparency in recruitment of management personnel, emphasizing both clinical and managerial competencies, (3) defining and standardizing quality improvement measures with the active involvement of stakeholders, including staff and patients, (4) establishing an error management culture that enables the open discussion of errors. This includes employees with management and governance responsibilities openly discussing errors, and (5) utilizing monitoring data to drive data-informed quality improvement initiatives.

Conclusion

The findings highlight the urgent need for structural reforms in leadership and governance within the healthcare system at the system and organizational levels, particularly financing structures. Ensuring adequate system-level incentive mechanisms is a prerequisite for successfully implementing quality-driven leadership and governance initiatives. The most impactful recommendations pertain to the organizational level, underscoring management personnel's critical but underestimated leadership role. Notably, no recommendations were identified as relevant and practical for insurers, partly due to the absence of their representatives in the expert workshops. This study provides a foundation for future research and policy development, emphasizing the importance of strategic governance and leadership in driving sustainable improvements in healthcare quality.

Conflicts of interest related to this abstract: None

P-1023

potenzialträger programm – a talent-to-employee engagement

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Introduction

In a constantly changing society where innovation and adaptability are crucial for success, a targeted leadership development plays an essential role. This kind of staff development programs are aiming to identify, develop, and prepare high potential employees for higher leadership positions within the organization. In order to ensure a consistent and structured approach to career development, installing a talent-to-employee engagement within the Knappschaft Kliniken network is a key

factor in our employer branding. The deliberated usage of career development is a tool for employee engagement. This is the reason why we intentionally develop top executives from within our own organization. The structured leadership development program of Knappschaft Kliniken enables high potential employees to receive targeted and purposive qualification opportunities. In addition to a professional development, the program strengthens the bond with the network, embedding a sustainable leadership culture within the clinics.

Aim/Objective(s)

Systematically preparing dedicated and talented employees for future leadership roles is the objective of the leadership development program. Achieving this by:

- Early identification of leadership potential
- Targeted qualification through training, workshops, and coaching
- Development of entrepreneurial and strategic thinking
- Strengthening the connection to Knappschaft Kliniken
- Promotion of value-oriented leadership principles

Methods

The first step in the program is a potential analysis, which identifies the individual strengths and needs of developing competences of participants. The results serve as the foundation for further development goals. Based on this analysis, defining and addressing personalized developing skills through coaching sessions. This individually targeted approach ensures that participants receive the specific support he or she needs to advance their careers. The training modules focus on both the organizational structure and leadership competencies. The training sessions provide in-depth insights into the economic and structural challenges of modern hospital management. Through practical methods, participants learn to make strategic decisions and develop their roles as coaches and communicators. Each participant develops an individual project within the program, presenting that project at the heads of nursing department-conference. The projects are not only theoretical concepts and nature but also practically implementable ideas that contribute to the advancement of nursing care.

Results

All participants benefited both professionally and personally from the various program modules. After completing the program, they are well prepared for their next career steps and already developed a strong professional network within the organization.

Key insights from the program:

- Increased satisfaction and stronger employee engagement of participants to Knappschaft Kliniken
- Enhanced leadership competencies through practical workshops and coaching
- Successful implementation of numerous projects that contributed to the development of nursing care

Conclusion

The leadership development program at Knappschaft Kliniken serves as a core pillar for high potential to leadership training within the organization. It does not only promote the personal and professional progress of participants but also ensures long-term quality and sustainability within the nursing sector of Knappschaft Kliniken.

Conflicts of interest related to this abstract: Keine

P-1024

Holmium Laser Enucleation of the Prostate (HoLEP) as a Value Based Proposition in the Surgical Management of Benign Prostatic Hyperplasia.

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Introduction

Benign Prostatic Hyperplasia (BPH) is the most prevalent urological condition affecting men, manifesting as lower urinary tract symptoms (LUTS). In Singapore, both Transurethral Resection of Prostate (TURP) and Holmium Laser Enucleation of the Prostate (HoLEP) are Grade A recommendations for the surgical management of BPH. While TURP has long been the standard surgical approach, HoLEP has emerged as a viable alternative in recent years, offering benefits such as thorough adenoma removal, reduced hospital stays, and minimal blood loss. However, HoLEP presents its own challenges, including a more demanding learning curve for surgeons, longer operation times, and increased equipment costs compared to TURP.

Aim/Objective(s)

To compare outcome data and projected cost for patients with BPH undergoing TURP against HoLEP to provide a value-based proposition for HoLEP in the management of patients with BPH for surgery in a single institution

Methods

Comparison of Outcomes: Cohort outcome data was obtained from retrospective review of medical records of patients with BPH >30g who underwent TURP or HoLEP from April to December 2023 since the initiation of HoLEP in the institution in April 2023. Comparison of Costs: (a) Identifying Cost Drivers: Mapping of respective patient journeys was conducted to identify cost drivers of each technique. (b) Cost simulation: Cost simulation of cost drivers was conducted based on FY23 cost data and present-day equipment cost, which were obtained from the institution's finance department and vendors respectively.

Results

Of 130 BPH patients with prostate volumes >30g, 77 (59.2%) underwent TURP. Both TURP and HoLEP groups showed comparable patient demographics with no significant differences in age, BMI, or ASA scores. Outcomes: (a) Patients who had HoLEP had significantly larger prostate size and longer operative duration. However, HoLEP had greater surgical efficiency, although this was not statistically significant. (b) There was significantly lower LOS for patients who underwent HoLEP, while other outcomes were similar. Costs: (a) Cost drivers for TURP and HoLEP were LOS and equipment cost respectively. (b) Cost simulation: Initial per patient cost for TURP is lower due to lower upfront equipment cost till 2.32-2.80 years. Thereafter, the additional patient undergoing HoLEP yields lower per patient cost, as equipment cost is spread over a larger volume, with significantly lower LOS cost. This translates to HoLEP breaking even after 210-252 patients. The time to break even for HoLEP is 1 quarter faster, if 20% of the patients are converted from short stay ward to day surgery.

Conclusion

For patients who qualify for HoLEP, there is good value potential attributed to shorter LOS. For the health system, introducing HoLEP has a potential to reduce bed-days, enjoy cost savings after a critical volume while maintaining similar clinical outcomes

Conflicts of interest related to this abstract: None

P-1025

Hospital administrators as forgotten partners in rare disease care: a call to action

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Introduction

The global public health burden of rare diseases has become an increasingly discussed topic, and its societal impact cannot be overstated. Over 400 million people worldwide are estimated to live with a rare disease. Over half of people living with a rare disease are children. Providing robust and comprehensive services to the rare disease community requires coordinated efforts of numerous experts and partners. Globally, there are many initiatives focused on improving the lives of people living with a rare disease. Most of these networks and organizations are region or country based and have historically centered on three focal areas: research; provision of education, support, and/or information; and direct clinical care. While all these efforts recognize the importance of a coordinated system of partners across a spectrum of disciplines to improve care for the rare disease community, one group has been largely untapped: hospital administrators and leadership.

Aim/Objective(s)

To improve care for children living with a rare disease by identifying barriers hospital leaders face, the International Hospital Federation (IHF) convened the Global Rare Pediatric Disease Network (GRPDN), composed of hospital leaders from around the world. To assess how hospital leadership can assist in providing the infrastructure for improving care for patients and families living with a rare disease, the GRPDN created a survey to gather feedback on hospital administrators' perspectives on needed efforts to improve global rare disease care.

Methods

A subgroup of GRPDN members drafted a 25-question survey. The survey was piloted by individuals within the GRPDN as well as by external individuals with international expertise in rare diseases and survey development. The survey's validity was assessed through a multi-step process. First, it was reviewed by experts to assess content validity and whether the questions effectively captured the topic under investigation. The survey was also assessed by an individual with competency in survey research to ensure questions were not leading or confusing. Feedback from these individuals was incorporated. The survey was then shared with members of the GRPDN to assess consistency in responses across potential participants.

The survey asked two qualitative questions with open-ended responses. Using thematic analysis, two independent reviewers analyzed the qualitative data and identified cross-cutting themes. Themes were not pre-identified. Rather, survey responses were reviewed in their entirety and then reviewed again for themes.

Results

The survey identified five themes: increased public awareness of rare diseases and support for families, diagnostic management and treatment guidelines, lifelong, multidisciplinary care, data and research, and funding.

Conclusion

Until recently, hospital leadership has been an untapped partner in addressing challenges faced by rare disease patients, and they are uniquely positioned to bridge existing gaps. The GRPDN will continue to focus on identifying practical strategies that hospital leaders – regardless of resource level – can implement to improve care for children living with a rare disease.

Conflicts of interest related to this abstract: None

P-1026

Hospital infrastructure and healthcare organization: the impact of Next Generation EU at the Santa Croce and Carle hospital in Cuneo

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Introduction

The COVID-19 pandemic triggered a severe health, economic, and social crisis worldwide, including those in the European Union (EU), where GDP contracted by 6%. In response, European authorities approved €2.1 trillion budget for the 2021-2027 Multiannual Financial Framework, including €800 billion for the Next Generation EU (NGEU) recovery instrument. Italy's National Recovery and Resilience Plan (PNRR) received €194.4 billion, with €15.63 billion allocated to healthcare, including €889 million for hospital seismic upgrades, to be completed by June 2026. The Santa Croce e Carle Hospital in Cuneo, recognized as Italy's top-performing hospital, submitted a feasibility study for the seismic adaptation of its historic building, funded by PNRR. The hospital's historic wing, inaugurated in 1935 and under cultural heritage protection, required the relocation of healthcare and administrative services to other facilities to allow works. This process involved significant logistical and regulatory challenges, particularly in ensuring compliance with structural and technical standards.

Aim/Objective(s)

The primary objective of this study is to analyze the organizational and structural challenges associated with the seismic adaptation of the historic wing of the Carle hospital building, funded by the NGEU recovery instrument. Specifically, the study aims to outline the methodology for relocating healthcare and administrative services to other facilities within the hospital complexes, ensuring compliance with regulatory and safety standards. Additionally, the study aims to provide a framework for managing similar projects in healthcare settings, emphasizing the importance and feasibility of balancing operational continuity, patient safety, and structural integrity during large-scale renovations. By addressing these challenges, the research highlights the organizational challenges of relocating healthcare activities while ensuring compliance with safety and regulatory standards. Moreover, the study aims to give a perspective on leadership methods to carry on these strategic actions.

Methods

The study employed a multidisciplinary approach to manage the seismic adaptation of the historic building at the Santa Croce e Carle Hospital. Strategic decisions in 2023 included the closure of certain facilities (e.g., the chapel and internal bar) and the relocation in the Santa Croce hospital of services such as Radiology and Internal Medicine wards to optimize space usage. A detailed timeline was established, with phased handovers of building sections by January 2025. The project focused on lean thinking principles, including SMART objectives, Gemba walks, and root cause analysis (Ishikawa diagram), to streamline processes and address inefficiencies. Stakeholder engagement was prioritized through regular operational meetings, ensuring alignment and timely problem resolution. Data on service volumes were collected to monitor performance deviations. The design adhered to regulatory standards and evidence-based practices, focusing on structural safety and functional

optimization. Effective leadership and transparent communication were essential to ensure collaboration and project success.

Results

The seismic adaptation and reorganization project at the Santa Croce e Carle Hospital achieved significant outcomes, particularly in the Radiology and Internal Medicine departments. The Radiology department underwent a major transformation, with the dismantling of the Carle facility and the centralization of services at the S. Croce building. This reorganization addressed staffing shortages and improved service efficiency, particularly for inpatients requiring X-rays. The Internal Medicine department was unified into the S. Croce hospital, reducing bed capacity from 61 to 57 but significantly improving care quality and diminishing length-of-stay. The renovation, costing €590,000 for 890 m², included architectural adjustments, new bathrooms, upgraded electrical and medical gas systems, and climate control. Patient rooms were equipped with uninterrupted power supply (UPS) systems and wireless monitoring for vital signs, enhancing patient safety and care delivery. Pediatric Neuropsychiatry and Rheumatology were reorganized, with minimal structural adjustments, improving space utilization without reducing services. Other services were consolidated, streamlining operations and reducing underutilized spaces. The project adhered to the initial timeline, thanks to a flexible schedule and effective collaboration. Overall, service volumes remained stable, with some departments experiencing increased activity post-relocation, demonstrating the project's success in maintaining operational continuity while upgrading infrastructure.

Conclusion

This study highlights the effectiveness of organizational and analytical techniques, such as Gemba walks, in healthcare settings, improving both operational efficiency and staff satisfaction. Open communication and active listening were critical in fostering collaboration and trust, particularly during the complex relocation of the Internal Medicine department, which was completed ahead of schedule with minimal clinical risk. Centralization efforts, such as the consolidation of the Radiology department, enhanced efficiency despite staffing shortages, while evidence-based design in the Internal Medicine department improved patient care quality. The integration of Rheumatology and Pediatric Neuropsychiatry services demonstrated the benefits of optimized space utilization. Challenges, such as staff attachment to physical workspaces, were addressed through transparent communication and a collaborative approach, ensuring alignment with organizational goals. This project underscores the feasibility of large-scale structural and operational reforms in healthcare, balancing infrastructure upgrades with service continuity. It also emphasizes the importance of combining technical expertise with softskills like communication and leadership to achieve successful outcomes in complex healthcare environments.

Conflicts of interest related to this abstract: None

P-1028

Impact of clinical governance on Hungarian healthcare quality and outcomes

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Introduction

Hospital performance variability remains a global challenge, often linked to financial strain and suboptimal patient outcomes. Hungary's National Directorate General for Hospitals addressed this through iterative clinical governance evaluations. In 2023, baseline data from 2022 were analyzed, with feedback provided to institutions in Q4 that year. A follow-up cycle in 2024

assessed progress using adjusted parameters. This study examines whether structured feedback loops – highlighting institutional strengths and weaknesses – drive measurable improvements in healthcare quality. The framework emphasizes adaptability, enabling hospitals to refine practices iteratively while maintaining core performance standards, offering a replicable model for systemic enhancement.

Aim/Objective(s)

This study aimed to evaluate the efficacy of a two-cycle clinical governance framework in improving Hungarian hospital performance. Objectives included analyzing 2022 data (collected in 2023), delivering targeted feedback in Q4 2023, and repeating the process in 2024 with refined metrics. We compared outcomes across cycles to assess progress, focusing on stable high-performing indicators, improvements in weaker areas, and overall score trends. Our hypothesis is that iterative feedback enables hospitals to prioritize resource allocation, optimize workflows, and enhance patient safety. Metrics spanned clinical effectiveness, patient safety and resource management. By identifying persistent gaps and successful interventions, the study seeks to validate the framework's role in driving incremental, data-informed quality improvements.

Methods

Data from our pool of publicly funded hospitals were collected in 2023 and 2024, using our established indicators across seven domains: human resource management, financial and operational management, work organization, clinical audit and effectiveness, patient safety and risk management, research management and patient and public perspective. Hospitals submitted data via standardized spreadsheets; scores (0–3 per indicator) were aggregated and analyzed groupwise. Comparative analysis employed Kolmogorov-Smirnov tests to confirm score distribution normality. Feedback included visual tools (boxplots, radar and line charts) to highlight institutional standings. In 2024, the study was rolled out to the majority of publicly funded hospitals. Non-parametric tests compared deltas between cycles, assessing progress in initially low-scoring areas and stability in high-performing metrics.

Results

Between cycles, initially low-scoring metrics improved to various degrees, while an overwhelming majority of high-performing indicators remained stable. Overall institutional scores showed a marginal, but significant increase ($p < 0.05$). Score distributions in both cycles were normal (Kolmogorov-Smirnov $p > 0.05$), confirming indicator reliability. Visual analytics revealed narrowed interquartile ranges in 2024, suggesting reduced performance variability. Core indicators meanwhile demonstrated consistent validity. Institutions receiving tailored feedback reported higher compliance with corrective actions.

Conclusion

The clinical governance framework demonstrated measurable improvements in Hungarian hospital performance. Iterative feedback enabled institutions to address weaknesses while sustaining strengths, validated by score increases and narrowed performance gaps. Despite metric adjustments, longitudinal comparisons highlighted systemic progress, particularly in resource efficiency and patient safety. Normal score distributions underscored the framework's objectivity, while visual tools enhanced institutional engagement. Pending governmental approval, the system will be formalized nationwide, with plans to integrate real-time data dashboards. Success in Hungary suggests adaptability for other healthcare systems seeking iterative, data-driven governance models. Future efforts will expand metrics for outpatient care and patient-reported outcomes, ensuring continuous alignment with evolving quality standards.

None

P-1029**Improve revenue collection by providing optimum healthcare services, from patients who are not covered by health insurance, including non-eligible patients**

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Introduction

Value based healthcare systems are essential for enhancing the well-being of populations and ensuring sustainable social and economic development. Kingdom of Saudi Arabia Vision 2030 calls for a vibrant society with fulfilling lives, where all can live healthy, be healthy and care for their health. However, healthcare facilities often face financial challenges due to uncollected or under-collected revenue, especially from non-eligible patients – those not covered by government health schemes or insurance plans. By optimizing healthcare services for non-eligible patients, the project seeks to implement efficient billing systems, transparent payment processes, and enhanced service quality to encourage compliance with payment requirements.

Aim/Objective(s)

Although Revenue generation is not the prime aim of the facility as it is one of the fully government funding public hospital, rather patient centered healthcare service provision to entire population without discrimination of cast and nationality. The main challenges that public hospital facing is to attract the non-eligible patients, by providing “value based” high quality and low cost healthcare services, according to their needs and expectation.

This project aims to strike a balance between delivering quality healthcare services and ensuring proper revenue generation. By optimizing healthcare services for non-eligible patients, the project seeks to implement efficient billing systems, transparent payment processes, and enhanced service quality to encourage compliance with payment requirements

Methods

Using conventional methodology of FOCUS PDCA, the team focused on identifying key challenges in the current revenue collection processes, streamlining administrative workflows with leadership support, and adopting innovative technologies to enhance efficiency and high quality with low cost services to attract the customers from other competitors. Facilitating the services for medical fitness test for health certificates and driving license with reasonable prices. Staff training for revenue development program including the health insurance accreditations was done. Renovation of patient waiting area in emergency and out patients clinics, provision navigators for guiding the patient for easy access to the healthcare providers. Data collection and analysis done on monthly basis and corrective action plan was created

Results

Successful accreditation by Council of Health Insurance (CHI) after proper implementation of CHI standards, improved public trust and satisfaction level by providing optimum healthcare services, impact on increasing there venue generation from 20 thousands to above 70 thousands Riyal Saudi by the end of the year 2024. Up to 70% revenue generation achieved from the patient care services and 30% from medical fitness certificates for multiple purposes.

Conclusion

This project support the KSA vision 2030 for healthcare transformation to accountable care organization (ACO) intransparency, beneficiary satisfaction and financial sustainability by promoting public health and disease prevention and implementing modern healthcare paradigms. Future plan for revenue generation is to reach the target of one million Riyal Saudi by the end of the year 2025 with imperative leadership and focusing on enhancing the quality and efficiency of healthcare services according to the needs and expectations of the community, and by promoting safe, effective and financially sustainable health coverage to all nations.

Conflicts of interest related to this abstract: None

P-1030**Improvement on the Timeliness of Philippine Integrated Disease Surveillance and Response (PIDSR) Reporting in East Avenue Medical Center**

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East Avenue Medical Center, Philippines

Introduction

Public health surveillance, an integral component of the Service Delivery Network, is a continuous, systematic collection, analysis, and interpretation of health-related data, which serves as an early warning system for impending outbreaks that could become public health emergencies; enables monitoring and evaluation of the impact of an intervention, helps track progress towards specified goals; and monitors and clarifies epidemiology of health problems, guiding priority- setting and planning and evaluation of public health policy and strategies. A reliable data can improve health promotion programs and help policy makers and investors allocate resources effectively. Under reporting, timeliness, completeness and regularity of reporting are common limitations seen as factors of misunderstanding disease trends and outbreaks. In 2021, a performance gap of 36.54 percentage points was identified, where only 38.46% of Philippine Integrated Disease Surveillance and Response (PIDSR) reports was submitted timely. This led to the improvement project of the hospital's disease reporting process.

Aim/Objective(s)

To ensure that proactive, effective and evidence- based health promotion programs or campaigns are being conducted, and that hospital management is provided with accurate surveillance reports for appropriate disease response, the improvement project on the timeliness in PIDSR reporting specifically aims to:

1. Identify the problem and its root causes.
2. Generate and implement improvement plan in PIDSR Reporting.
3. Analyze improvement results with comparative data analysis (2021 vs 2022).
4. Set standards and institutionalize the PIDSR reporting process in the hospital.

The completion of the improvement project would result to a better hospital epidemiology and surveillance system.

Methods

The PHU Process Improvement Team (PIT) used a modified Lean and Six- Sigma approach, combining them with the PDCA Cycle, which creates a 7- step process improvement model to have a thorough analysis of the problem. Initial analysis of retrospective data on disease surveillance reporting, process mapping and root cause analysis served as reference in drafting the improvement plan, which was implemented for a six-

month period. To measure the improvement in the process, timely submitted reports were quantified, and comparative data analysis (January to June 2021 vs January to June 2022) was presented.

Results

For the period of January to June 2021, only 38.46% of the PIDSR Reports was timely submitted by the PHU Hospital Epidemiology and Surveillance (HES) in EAMC. With equivalent target indicator of 75% timely submission of PIDSR Reports, the PHU HES in EAMC achieved 92.31% timely reporting for the period of January to June 2022. The table below shows a comparative data on the timeliness on PIDSR Reporting in EAMC for the period of January to June 2021 and January to June 2022.1.

Weekly Reports	Timeliness (Thurs- days, 3:00 PM)	2021		2022	
		F	%	F	%
Philippine Integrated Disease Surveillance and Response (PIDSR) Report; Weekly Notifiable Disease Report (WNDR)	Timely	10	38.46	24	92.31
	Late	3	11.54	2	7.69
	No Report	13	50.00	0	0
	Subtotal (MW)	26	100.00	26	100.00

Comparative Data on Timeliness on PIDSR Reporting in East Avenue Medical Center

During the implementation of the study (January to June 2022), only two reports were submitted late due to a health emergency when all the designated surveillance staff contracted COVID-19 infection. As with all other root causes were addressed, an official laptop was issued to the PHU HES in June 2022 for the staff to be able to work remotely.

Conclusion

Timely surveillance data communicated with local epidemiology units and other stakeholders is one of the crucial factors preventing outbreaks and pandemics as it facilitates planning and response activities. As for EAMC, achieving timeliness needs improvement in terms of manpower, methods, and materials. Implementation of the improvement plan which focuses on addressing the root causes identified has led to increased timely submission of surveillance reports from 38.46% to 92.31%. Small and simple improvement ideas, as they may seem, has significantly contributed to the success of the project:

1. Develop monitoring mechanism
2. Utilize Case Investigation/ Report Forms
3. Report line list (PIDSR line list)
4. Update SOP in Hospital Surveillance
5. Designate Person-In-Charge to HES
6. Act upon manpower complement of HES
7. Implement Hierarchical Organization

The timeliness on PIDSR surveillance reporting of 92.31% for the period of January to June 2022 has exceeded the target, greatly because all causes of variations were addressed, even the matters where the PHU PIT has no control.

Conflicts of interest related to this abstract: None.

P-1031

Improving Timeliness in Patient Referral in East Avenue Medical Center

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East Avenue Medical Center, Philippines

Introduction

The Universal Healthcare Law of 2019 has brought about a paradigm shift in the health system of the Philippines -how services are organized, funded and delivered – which is geared towards the delivery of comprehensive health services that is guaranteed available and accessible to the Filipinos. Healthcare Navigation and Referral in the hospital plays a vital role in ensuring equitable access to affordable quality health care and services through its links with the members of the Health Care Provider Networks. In 2021, Healthcare Navigation and Referral (HCNR) was transferred from COVID-19 Response Operation Center to the Public Health Unit. It was noted that referrals were not measured, and has no defined indicators, monitoring, tracking and feedbacking tools. In 2022, after several gaps in the process were identified, Process Improvement Team was formed to work on the improvement of navigation and referral process, with particular focus on the timeliness in patient referral.

Aim/Objective(s)

To ensure that proper referral and navigation of patients in the hospital are being carried out, and that referrals are redirected to primary care facilities and other necessary facilities in the network, the improvement project on the timeliness in patient referral specifically aims to:

1. Identify performance gaps on the first quarter of 2022.
2. Define indicators and measures of referrals received and processed.
3. Obtain baseline data for the analysis of performance measure for 2022.
4. Identify the problem and its root causes.
5. Generate and implement improvement plan in 2023.
6. Analyze improvement results with comparative data analysis (2022 vs 2023).
7. Set standards and institutionalize the process in the hospital.

The completion of the improvement project would result to a better hospital referral system that will ensure guaranteed equitable access and affordable health care goods and services, and protection against financial risk.

Methods

Action research using descriptive quantitative design was utilized as the study uses data from 2022 (period of study) to serve as baseline data, giving a retrospective approach in formulating the necessary improvement in the current referral system. Data and results from 2023 (period of implementation) measures the improvement from the previous year through comparative data analysis. Data included in the study are records on the number of referral calls processed by the PHU HCNR in 2022 and 2023, where improvement measure focuses on the number of pending calls. Modelled by Kaizen, the project started with gaps analysis, process improvement team formation, and identification of problems. Then, the process was defined, alongside measures and indicators, followed by analysis of the process and causes of variation, creation of solutions and improvement plans, implementation, measure and analysis of results and standardization of successful solutions.

Results

In 2022, pending calls from the referrals processed by the PHU HCNR in EAMC is 11%. After the implementation of the improvement plan, the pending calls from referrals processed decreased to 3% in 2023. The table shows a comparative data on the timeliness in patient referral in EAMC, as measured by the pending calls in 2022 and 2023. During the implementation of the study (2023), the following improvement ideas led to the significant decrease in pending referrals:

1. Develop tracking system (for calls received) – The first tracking tool was manually filled-in, followed by electronic tracking tools which were improved until a tracking system was finalized.

COMPARATIVE ANALYSIS ON REFERRAL STATUS IN EAMC (2022 VS 2023)

STATUS	CY 2022 N = 2651	CY 2023 N = 2310
Success	2226, 84%	1628, 71%
Pending	294, 11%	71, 3%
Walk-Ins	131, 5%	611, 26%

2. Standardize referral disposition turn-around-time – A result of the referral disposition time-and-motion study.

3. Performance Indicators were identified and defined.

4. Endorsement between shifts Revised daily tally sheet was used during endorsements.

5. Develop several monitoring tools, including accomplishment reports presented in monthly meetings.

6. Orientation on success referrals were informal, with focus group discussions, brainstorming and coaching sessions.

Conclusion

After the implementation of the improvement plan, the pending calls from the processed referrals decreased from 11% to 3%. Improving the timeliness of patient referral in EAMC is necessarily important as it will facilitate efficient access to available services not only in the nearby cities and municipalities, but the nearby regions of the National Capital Region as well. After the successful improvement in the timeliness of patient referral process in EAMC, several Memorandum of Agreements were signed between EAMC and the Healthcare Provider Networks (HCPN) of Quezon Province, Camarines Norte, and Quezon City, the Local Government Units (LGU) of Mulanay, Quezon and Lubang, Occidental Mindoro, the Philippine National Police, and the North Sector of CAMANAVA Health System. Further, the EAMC patient referral model and tools were adopted by the Quezon City Primary Care Provider Networks (PCPN) and Quezon City HCPN. Furthermore, pilot study of a two-way referral system between EAMC and Quezon City HCPN has commenced. The success of this project meant that more people could access not only the available services in EAMC but also the available services in the partner HCPN, LGU and Health Systems.

Conflicts of interest related to this abstract: None

P-1032

Increasing Employee Retention through Engagement, Development, and Well-being Programs

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Introduction

The pandemic significantly impacted the engagement, retention, health, and well-being of healthcare workers. To address

this challenge, Ontario Shores developed a multi-faceted program that focused on three main pillars: Engagement and Connection: Ontario Shores focused on reigniting its core value of community through events, appreciation experiences, and consistent connection with the executive team. – Retention: With input from staff, the retention work focused on diversity, equity, inclusion, and belonging (DEIB) strategy and other professional development opportunities. – Well-being: With a refresh to its Integrated Wellness Strategy, Ontario Shores implemented numerous activities, resources, and workshops across all domains of wellness.

Aim/Objective(s)

- Develop an integrated and multi-pronged approach to increase retention and improve the employee experience through engagement, professional development, belonging and well-being.
- Nurture a sense of community by increasing staff participation in hospital-wide events by 15%
- Measure an improvement to the employee experience through the employee opinion survey and increase employee engagement by 2%
- Offer a minimum of three events or activities a month across the priority pillars
- Support the professional development of staff with an increase to tuition assistance funds
- Increase visibility of the executive team and two-way dialogue by having 2,000 direct connections with staff per year
- Through new well-being initiatives, reduce the comments in the Employee Opinion by 10% Survey from 28% (in 2022) to 10% (2023)

Methods

Monthly Events and Activities

- Celebrations and activities for awareness days such as Pride, International Women's Day, Canada Day, staff appreciation BBQ and Holiday Cheer celebrations
- A range of workshops were offered to support DEI education
- DEIB training was provided to all leaders, on the inpatient units and across various outpatient and non-clinical departments

Executive Visibility

- CEO hosted bi-monthly all staff forums, monthly CEO lunches with frontline staff and visited two clinical units a month during a night shift
- The Vice-Presidents each visit two departments monthly, celebrate successes, answer questions, address challenges
- Executive team hosts an appreciation lunch for every clinical discipline awareness week (Nursing Week, Psychology Week, etc.)

Well-being

- Hosted a series of well-being workshops on a range of topics including resilience, stress, mindfulness, healthy habits
- Expanded intranet site with resources for each domain of wellness
- Monthly bulletin to staff featuring a new domain with tools, workshops and resources

Results

Ontario Shores implemented a robust multi-pronged strategy that focused on the improving the employee experience. It focused on engagement, professional development, creating a sense of belonging and community and enhancing well-being. Ontario Shores is proud of the following results:

- 20% increase in staff event participation
- Employee engagement score increased by 3% to 76%

- Through engagement and events, the executive team had more than 3,000 direct connections with staff in each of the past 3 years
- More than 300 staff each year participate in some form of DEIB education, event or workshop
- Using a post-then pre-assessment, the DEI workshops increased leaders' knowledge by 8% to 70% across different learning objectives
- Through the implementation of the Integrated Wellness Strategy, negative comments about wellness in the Employee Opinion Survey were reduced from 28% in 2022 to 8% in 2023
- After attending the well-being workshops, 98% of participants said they felt confident applying what they learned
- In 2023, the annual Tuition Assistance reimbursement amount was raised from \$1100 to \$1500 per employee, which saw a 37% increase in participation when compared to the previous 3-year average.

See supplemental material provided for additional results.

Conclusion

Through a multi-pronged approach, Ontario Shores has improved the employee experience. With strategic workplans in the areas of retention, professional development, engagement, DEIB and well-being, Ontario Shores has seen an increase in its employee engagement score, staff engagement and participation in events, DEIB outcomes, retention data, professional development utilization and achievement of learning outcomes. These activities were all informed by staff through surveys, focus groups, feedback during executive rounds and research to ensure the activities matched the interests and needs of its staff. As a result, Ontario Shores has seen a reduction in its turnover rates and negative comments about the lack of well-being supports. Ontario Shores will continue to take an integrated approach to its engagement, professional development and employee well-being and diversity, equity, inclusion and belonging strategies to ensure alignment to best practices.

Conflicts of interest related to this abstract: None

P-1034

Innovative approaches to staff wellbeing: nurturing a healthy and thriving workforce

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Introduction

The inception of the Modality Wellbeing Programme was prompted by a pressing need to address escalating concerns regarding staff wellbeing, motivation, and mental health within the NHS. With the workforce experiencing unprecedented levels of exhaustion and stress, coupled with the enduring challenges of the healthcare landscape, it became evident that proactive measures were imperative. Modality introduces a pioneering national Wellbeing Programme, revolutionising staff support. Backed by a robust strategy, our initiative fosters a culture of wellbeing, engagement, and inclusion across 1700+ staff and 53 sites. We've implemented comprehensive support systems, including Wellbeing Guardians and Champions, online resources, and group-wide initiatives. Our results speak volumes: a remarkable 60% increase in staff survey participation, alongside qualitative testimonials and quantitative improvements in engagement and satisfaction. This initiative not only prioritises staff wellbeing but also enhances patient care through increased staff attentiveness and empathy, leading to a more positive healthcare experience.

Aim/Objective(s)

Issues and challenges were identified through comprehensive internal assessments, including staff surveys, focus groups, and anecdotal feedback from frontline healthcare professionals. Quantitatively, key metrics such as staff survey participation rates, utilisation of support services, and turnover rates were tracked. Qualitatively, staff testimonials highlighted the emotional toll and burnout experienced due to workload, pandemic-related stressors, and inadequate support systems.

The primary goal was to improve staff wellbeing, motivation, and mental health, with specific targets set to:

1: Increase staff engagement and satisfaction

2: Enhance support system utilisation

3: Reduce turnover rates

4: Foster a positive work environment

By setting specific, measurable, attainable, relevant, and time-bound goals and targets, the Modality Wellbeing Programme ensured a focused approach to addressing identified issues and challenges within the NHS workforce. This strategic framework facilitated effective monitoring and evaluation of progress, ultimately leading to tangible improvements in staff wellbeing and patient care outcomes.

Methods

The Implementing the Modality Wellbeing Programme involved several strategic steps and stages to ensure effective engagement of management, staff, patients, and other stakeholders. Planning and Strategy Development: Management set clear objectives, timelines, and allocated resources, incorporating staff feedback through surveys and focus groups to align with reported needs. Resource Allocation and Training: Resources such as funding, staff, and technology were allocated, with training provided to staff on programme roles and responsibilities. Stakeholder Engagement: Patients and stakeholders were involved via focus groups and surveys to ensure the programme met their expectations. Programme Rollout: The programme was introduced in stages, with management support and the appointment of Wellbeing Guardians to encourage staff participation. Monitoring and Evaluation: Regular monitoring and evaluation mechanisms were established to assess programme effectiveness and identify areas for improvement.

Results

The Modality Wellbeing Programme exemplifies our organization's commitment to ensuring healthcare workers' wellbeing through its comprehensive approach and measurable outcomes. Significant results and outcomes have been achieved across various dimensions of staff wellbeing, as quantified by robust metrics and qualitative feedback. Firstly, there has been a remarkable 60% increase in staff engagement levels, measured through annual surveys and feedback mechanisms. This indicates a substantial improvement in staff morale, job satisfaction, and overall commitment to the organization. Moreover, our programme has led to tangible reductions in turnover rates, with a 20% decrease observed since its implementation. This not only underscores the success of our retention strategies but also ensures continuity of care and organizational stability. Additionally, absenteeism has decreased by 30%, indicating a healthier and more motivated workforce. Qualitatively, testimonials from staff members attest to the positive impact of the programme on their mental health and wellbeing. Many report feeling more supported, resilient, and empowered to navigate the challenges of their roles. Administrative and clinical staff have echoed this sentiment, with 90% reporting feeling more supported in managing workplace stress and mental health challenges. This qualitative feedback provides valuable insights into the programme's efficacy and relevance to staff needs.

Conclusion

The Modality Wellbeing Programme has received widespread recognition and acclaim. It has been nominated for several awards, highlighting its innovative approach and measurable impact on staff wellbeing. Additionally, the programme's success has been featured in conferences, further solidifying its reputation as a leading initiative in healthcare workforce support. The Modality Wellbeing Programme demonstrates our organization's excellence in prioritizing healthcare workers' wellbeing through its measurable outcomes, innovative strategies, and recognition within the healthcare community. By quantifying improvements in staff engagement, retention, and absenteeism, as well as gathering qualitative feedback from staff, we have demonstrated the tangible benefits and cost-effectiveness of our programme. The programme has served as a catalyst for change beyond the organization, inspiring similar initiatives across the healthcare sector. It has been adopted by numerous healthcare organizations, with 60% expressing interest in implementing similar programmes. This widespread adoption underscores the programme's effectiveness and potential for broader use in addressing the critical issue of healthcare workers' wellbeing.

Conflicts of interest related to this abstract: None

P-1035

Integrated TB care through public-private partnerships in a large hospital network

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Introduction

Tuberculosis (TB) remains a national public health issue in Indonesia with an estimated 824,000 new cases each year. Despite progress in increasing treatment coverage and improving treatment success, achieving the goal of ending TB still requires additional efforts. With challenges of under-reporting and under-diagnosis of TB, better engagement from all health facilities, including the private sector is essential. Public Private Partnership (PPP) is a concept and platform for the National Tuberculosis Program to enhance the involvement of all healthcare facilities (both government and private) in tuberculosis control. The implementation of PPP is expected to improve TB case detection and the treatment success rate. We have been involved in the PPP TB program since 2022 through a collective engagement strategy within network management, thereby benefiting the national program. This approach will automatically be applied to all hospitals within the network, creating an efficient and scalable model adapted to each hospital network.

Aim/Objective(s)

This Public-Private Partnership for Tuberculosis Elimination program aims to:

- Support efforts to strengthen the implementation of the national TB control program, specifically within the Hermina Hospital branches
- Improve access to TB services provided by the TB control program for the Hermina hospital branches
- Increase contribution and strengthen the Hermina Hospital Group's branches in TB case notification through more intensive screening and better TB recording and reporting.
- Strengthen external networks between the Hermina Hospital Group and other health facilities, including primary

healthcare centers (Puskesmas) and District Health Offices, to provide access to TB diagnosis and treatment.

- Develop interoperability between the TB Information System (SITB) and existing hospital information systems (HIS) to ensure TB case notification from all units within the Hermina Hospital Group.

Methods

The Public-Private Partnership program for TB started from November 2022 until December 2024. This program implemented a model of engagement focusing on TB screening, surveillance, and TB Information System (SITB) interoperability with Hermina Hospital Group's information system (HIS) that implemented in 47 hospital branches.

The methods included:

1. Developing standard operating procedures for TB care
2. Disseminating SOPs to all Hermina Hospital Group and coordinate with the Hospital TB team to adapt the SOPs based on each hospital
3. Increasing capacity of human resources in Hermina Hospital by implementing TB Coaching program
4. Developing HIS and SITB interoperability
5. Utilizing HIS and SITB interoperability to notify TB cases
6. Data management and reporting

Results

The collaboration between Hermina Hospital Group, Ministry of Health, and USAID TBPS has significantly enhanced TB surveillance in Indonesia. Before the implementation of the Public-Private Partnership, the number of suspected TB cases were 3,421 and after the intervention with Coaching, 4,073 suspected cases were obtained. Additionally, the findings include 1,538 confirmed cases which increased by 13%, and Treatment Success Rate improved by 33%. The implementation of coaching accompanied by the creation of clinical guidelines and clinical pathways for TB as a standards in healthcare across all branches. The "TB Coaching" program, trained 43 coaches and 144 healthcare workers, strengthening TB care coordination between hospitals and public health facilities. These measures enhanced adherence to diagnosis and treatment standards. Integrating digital screening tools into the hospital's information system (HIS) streamlined data management, boosting automated case detection by 69%. Structured outpatient screening protocols also improved early diagnosis, with cough screening initiatives identifying 2,154,948 presumptive cases. Monitoring and reporting are carried out periodically every month to evaluate the success of the program. The reporting system is integrated through the information system connecting our hospital and the Satu Sehat platform. This activity will continue sustainably to achieve TB elimination in Indonesia.

Conclusion

Public-Private Partnerships provide benefits for improving TB control programs in Hermina hospitals. The integration of digital interoperability between SITB within Hermina Hospital Information System has significantly enhanced TB case detection, reporting, and management. By leveraging automated screening and standardized protocols, this initiative has addressed critical gaps in under-reporting and late diagnosis, improving overall patient care and public health outcomes. The increase in TB case notifications and the strengthened collaboration between public and private healthcare sectors demonstrate the success of this public-private partnership model. This approach contributes to our hospitals improvement by streamlining TB surveillance, reducing manual reporting errors, and ensuring timely diagnosis and treatment. The implementation of structured TB screening in outpatient clinics and the integration of digital tools have not only optimized hospital workflows but also facilitated early case identification, ultimately reducing TB transmission rates.

From our policy perspective, the success of this initiative underscores the importance of integrating digital health solutions within national TB control programs. It provides a scalable model that can be replicated across other private hospital networks to strengthen TB case notification systems. Furthermore, the capacity-building efforts through the "TB Coaching" program highlight the role of continuous professional development in ensuring high-quality TB care.

Conflicts of interest related to this abstract: None

P-1036

Interprofessional Leadership in the context of increasing tensions and contradictions – experiences from a reorganization at the USB

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Introduction

Hospitals are characterised by complex organisational and management relationships. In university hospitals, this complexity is even more pronounced due to the clinical and scientific requirements with a threefold mission of patient care, research and teaching. Their complex value creation often requires strong interprofessional and interdisciplinary cooperation. In particular, the three professions in the core business – medicine, nursing and business administration – must constantly manage e.g. conflicting medical, economic and employee-related objectives and the associated areas of tension. Literature reviews different forms of leadership that in some way imply plurality: that is, the combined influence of multiple leaders in specific organizational situations. We describe a development process of a new organizational design that establishes and develops a leadership level, which consists of interprofessional leadership teams. In this context, we explore the question of how interprofessional leadership teams can be developed in the context of increasing tensions and contradictions.

Aim/Objective(s)

In 2021, the University Hospital Basel introduced a new organizational structure to cope with the increasing complexity and to support faster & more effective decision-making within the hospital management. Structurally, the core business of the clinics was divided into seven departments. Also, a further management level between the hospital management & clinic level was established, namely the department management. Each department was now managed by an interprofessional management team, each comprising a medical, a nursing and a business management executive. Around a year later, the department managers shared their challenges with the new organization and the management practices in place. In response, the hospital management initiated a workshop, which was the starting signal for a comprehensive organizational design process. The subsequent action learning approach resulted in the strategy-oriented further development of the organization and interprofessional management, which was aimed at the further development of interprofessional collaboration and leadership practice, among other things.

Methods

The case study describes an action learning approach to organizational design development, through which an expert organisation can sustainably assert itself against the competition and differentiate itself in the context of multiple areas of tension. Following an initial workshop with all first and second-

level managers, interprofessional and cross-hierarchical working groups were setup to identify strategic requirements for the organization and management. In a second step, meetings, structures, tasks, competences and responsibilities, roles and an interprofessional understanding of leadership were developed by the managers themselves in the working groups. As part of the implementation and enabling process, the areas of tension and polarities that need to be managed in the context of interprofessional collaboration in the management teams were intensively reflected upon and specific measures and practices for dealing with them were developed.

Results

At the beginning of the process, while discussing the organizational design principles, it became clear how challenging it was for many managers to deal with the often contradictory demands on the organization. One manager commented: 'That's not possible, you can't optimize efficiency and costs and then promote innovation at the same time. It's either cost optimization or innovation.' For this reason, working groups deepened the understanding of interprofessional collaboration, critically reflected on the necessary skills for dealing with such cooperation and leadership situations and promoted the development of corresponding skills in the sense of a paradoxical mindset. To this end, questionnaire-based forms of interaction were surveyed at a personal level, in management teams and at the level of the organization, and the management of interprofessional interaction was practiced, e.g. with the polarity of economic efficiency and medical quality. Managers showed the development of a multi-perspective way of thinking, accepted contradictions and increasingly took time for reflection and examination of their areas of tension. Overall, their perception of areas of tension and contradictions has changed significantly, leading to a marked change in interprofessional behavior. Based on the experience gained, the development is now to be continued at other management levels.

Conclusion

The development process presented here shows that the development of highly complex expert organizations is possible but must also be long-term and closely oriented to the special (e.g. time-related) requirements of such organizations. Critically, it should be noted that common management instruments and methods, e.g. target agreement systems etc., may insinuate a linearity and controllability that practitioners can only respond to ambivalently in view of the contradictions of a hospital organization. Organizational development approaches which adequately reflect the contradictory nature of everyday practice, and which foster the understanding and managing of polarities address the increasing complexity in leading health care organizations. Alongside other approaches to distributed leadership, the paradox or polarity perspective on interprofessional leadership presented here is still underexplored. Regarding our research question we show how the interprofessional management of areas of tension in health care organizations can be developed by drawing on the distinction between 'either-or' and 'both-and' approaches in interprofessional interactions. The polarity concept is a Threshold concept, especially when dealing with tensions in interprofessional contexts and health care organizations. Or – to paraphrase Paul Watzlawick: 'It is not the problem that is the problem, but the way of dealing with it'.

Conflicts of interest related to this abstract: None

P-1037

Investing in Healthcare Trainers: A Scalable Approach to Workforce Engagement and Retention

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Introduction

The Healthcare Leadership Academy (HLA), under the Saudi Commission for Health Specialties, launched the Enable Master Trainer program to expand leadership training capacity within the healthcare sector. Introduced in 2019, with a second cohort in 2024, the program collaborates with external trainers and international organizations specializing in training, facilitation and talent development. This initiative equips healthcare trainers with advanced facilitation skills, enabling them to deliver impactful leadership training in partnership with HLA and within their institutions. By collaborating with certified master trainers, HLA strengthens the leadership training ecosystem while fostering a sustainable model for leadership development. Since their graduation, both cohorts of 40 trainers have actively participated in delivering leadership training through HLA programs and within their own organizations. This approach aligns with the Healthcare Sector Transformation Program (HSTP), ensuring that leadership capacity is continuously developed across the healthcare sector through a collaborative and scalable training framework.

Aim/Objective(s)

1. Enhance Training Capabilities – Equip healthcare professionals with advanced facilitation and instructional design skills to deliver high-quality, engaging training sessions.
2. Expand Leadership Development – Increase the number of certified master trainers in the healthcare sector to ensure widespread and sustainable leadership training.
3. Ensure Knowledge Transfer – Enable graduates to apply their expertise in real-world training environments, contributing to continuous professional development in healthcare.
4. Demonstrate Long-Term Impact – Establish a return on investment by collaborating with program graduates to facilitate additional training programs, ensuring the scalability and sustainability of leadership development efforts.

Methods

The Enable Master Trainer program employs a structured selection methodology to identify and enroll the most qualified candidates. Announced through official HLA channels, it attracted a diverse applicant pool. The selection process included CV and application screening, evaluating job titles, professional experience, qualifications, training background, achievements, and English proficiency. Shortlisted candidates underwent competency-based structured interviews, assessed by a committee of training experts, focusing on facilitation skills, leadership potential, and training impact. Data collection methods included document review (CVs, applications) and structured interviews. A merit-based ranking system was applied to ensure fairness, while regional representation across Saudi Arabia was considered to promote inclusivity. The final cohort comprised top-performing candidates who met the program's rigorous criteria. This three-month program ensures that only the most capable trainers are enrolled, fostering excellence in healthcare leadership training.

Results

Since graduation, Enable Master Trainers from both cohorts have significantly expanded HLA's in-person (non-virtual) leadership training programs. They have conducted workshops and training sessions, directly training 781 participants, accounting

for 15% of all in-person participants through HLA since 2020. This highlights their critical role in strengthening leadership training capacity. Data tracking shows a steady increase in access to in-person leadership training, with Master Trainers leading sessions not only within HLA programs but also in their own institutions. This expansion has enhanced knowledge transfer and leadership development, extending the program's impact beyond HLA-led initiatives. By equipping trainers to independently deliver training, HLA fosters a collaborative, self-sustaining development model. This approach directly supports the Healthcare Sector Transformation Program (HSTP) by strengthening the healthcare workforce and expanding access to high-quality, hands-on training across various regions in Saudi Arabia

Conclusion

The Enable Master Trainer program has played a crucial role in strengthening leadership training capacity in the healthcare sector, directly supporting the Saudi Healthcare Sector Transformation Program (HSTP). By equipping Master Trainers with advanced facilitation skills, the program has expanded access to high-quality leadership training, empowering professionals working in healthcare to lead change and improve service delivery. The program introduces a structured and standardized approach to leadership training, ensuring consistency in facilitation practices. By developing skilled Master Trainers from within the sector, it reduces reliance on external providers and integrates leadership development more effectively into professional growth pathways. From a broader perspective, the program contributes to healthcare workforce development by increasing access to leadership training and enhancing team collaboration, communication, decision-making, and other essential competencies for professionals working in healthcare and leaders. As the program continues, it aims to further embed leadership training within career development frameworks, ensuring its long-term sustainability. By fostering a network of skilled Master Trainers, the initiative supports ongoing leadership development and strengthens the healthcare system's ability to adapt, innovate, and enhance service quality across the sector.

Conflicts of interest related to this abstract: None

P-1038

Knowledge, Attitudes, Practices, and Barriers to Cervical Cancer Screening and Prevention Among Women Attending the OBGYN Outpatient Department

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Introduction

Cervical cancer is a leading cause of cancer-related deaths among women in the Philippines, primarily due to persistent HPV infections. Despite being preventable through HPV vaccination and early screening, many cases are diagnosed late due to limited awareness, stigma, and healthcare access barriers. Knowledge, attitudes, and practices (KAP) among communities play a crucial role in prevention. Many women have limited understanding of cervical cancer and screening methods, while fear and misconceptions deter them from seeking medical care. Dr. Jose N. Rodriguez Memorial Hospital and Sanitarium (DJNRMHS) contributes to prevention through affordable screening, treatment, and awareness programs. The Philippine government, through initiatives like the Universal Health Care Law and the National Immunization Program, provides free HPV vaccines and cancer screening. Strengthening health education, improving access, and expanding research can enhance

cervical cancer prevention, ensuring better healthcare outcomes for Filipino women, especially in underserved areas.

Aim/Objective(s)

General Objective:

To assess the knowledge, attitudes, practices, and perceived barriers regarding cervical cancer screening and prevention among Filipino women attending the outpatient clinic of Dr. Jose N. Rodriguez Memorial Hospital and Sanitarium. The study aims to provide valuable insights that will inform targeted health education interventions, addressing knowledge gaps, overcoming barriers, and promoting proactive health-seeking behaviors. Ultimately, this research seeks to improve cervical cancer screening rates and enhance health outcomes within the hospital setting and the broader community.

Specific Objectives:

1. To evaluate the level of knowledge about cervical cancer screening and prevention among Filipino women.
2. To assess attitudes toward cervical cancer screening and prevention.
3. To analyze current screening and preventive practices for cervical cancer.
4. To identify the sociodemographic characteristics of the study population.
5. To examine the relationship between sociodemographic factors and knowledge, attitudes, practices, and perceived barriers related to cervical cancer screening and prevention.

Methods

A cross-sectional study was conducted at DJNRMHS from September to October 2024 to assess cervical cancer knowledge, attitudes, and practices among 301 women aged 30–65. Exclusion criteria included prior cervical cancer, hysterectomy, healthcare work, or cognitive impairment. A 95% confidence level determined the sample size. Ethical approval and informed consent were obtained. A validated, Filipino-translated questionnaire, adapted from prior studies, collected sociodemographic data, information sources, and knowledge of prevention, symptoms, screening, and risk factors, alongside attitudes and practices. Likert-scale responses were categorized into low/high based on the median. Non-parametric tests (Mann-Whitney U, Chi-Square, Fisher's Exact) analyzed bivariate associations. Knowledge and attitudes were categorized as low/high, while practice was defined by prior Pap smear or screening history. Multivariate binary logistic regression identified significant predictors. Data analysis was conducted using SPSS version 29, ensuring robust statistical evaluation of cervical cancer-related awareness and behavior.

Results

This study analyzed 301 participants, primarily Catholic, married housewives (median age: 36) with secondary education. While 95% were aware of cancer, only 61.4% knew about cervical cancer. Most had small families (≤ 2 children) and low incomes (<Php 10,000/month). Many used birth control pills and had undergone HIV testing. Television and healthcare facilities were the main sources of information. Findings revealed high awareness of early detection (92.7%) and screening importance (81.7%), but notable knowledge gaps in vaccine availability (49.3%), recommended vaccination and screening ages (<25%), and the asymptomatic nature of cervical cancer (8%). Pap smears were recognized by 58.5%, but awareness of other diagnostic tests was limited. Screening uptake was low, with 40.5% having undergone a Pap smear, mostly for screening. While 69.4% recommended Pap smears, only 57.1% were willing to have one. The most recognized symptom prompting screening was irregular menstrual bleeding (55.8%). Overall, participants exhibited low knowledge, a positive attitude, and moderate screening practices. The primary barrier to screening

was never considering it (93.4%), highlighting the need for targeted awareness interventions. These findings align with the validated survey methodology and statistical analyses employed.

Conclusion

Despite significant progress in cancer control, cervical cancer remains a major public health issue in the Philippines. This study found that while most women had limited knowledge about cervical cancer, they exhibited a positive attitude and engaged in preventive practices. This suggests that ongoing health education initiatives – particularly those addressing risk factors, screening methods, and prevention – have successfully raised awareness. However, the primary barrier to Pap smear testing was a lack of consideration, with 93.4% of respondents stating they had never thought about screening. To address this, integrating cervical cancer education into school curriculums and expanding community outreach programs is crucial. Achieving WHO's 2030 targets for cervical cancer elimination requires urgent health policy reforms, particularly in enhancing screening accessibility and HPV vaccination efforts. This study provides locally relevant data that can guide tailored interventions, influencing policy and health service improvements. Future research should explore barriers to screening access, including socioeconomic and logistical constraints. Strengthening awareness campaigns, improving service delivery, and addressing misconceptions through targeted policies can bridge knowledge gaps and enhance preventive measures. Ultimately, these efforts will contribute to reducing cervical cancer incidence and improving women's overall health outcomes.

Conflicts of interest related to this abstract: None

P-1039

Leadership Strategies for a Resilient and Engaged Healthcare Workforce

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Introduction

The global healthcare workforce faces increasing challenges, particularly in emergency medicine, where high workload, long hours, and emotional strain contribute to burnout. Emergency physicians experience some of the highest stress, impacting workforce stability and career longevity. In Singapore, rising patient volumes, career expectations, and post-pandemic fatigue have further strained physician well-being and engagement. Shifting patient expectations, including demands for faster care and personalized treatment, also place additional pressure. Employee Engagement and Wellbeing Survey (EES) findings at NUH highlighted key workforce concerns, including challenges in psychological safety, communication, and team cohesion. Recognizing these challenges, NUH EMD, with strong institutional support, implemented leadership-driven strategies to enhance engagement, resilience, and professional fulfillment. Originally a hospital-wide initiative, WeCare was customized for NUH EMD to address the unique pressures of emergency medicine. By focusing on mindset transformation and team collaboration, it fosters a resilient and engaged workforce equipped to meet professional and patient expectations.

Aim/Objective(s)

This descriptive study examines the implementation of the WeCare initiative and how this was integrated into the NUH EMD to strengthen team cohesion, psychological safety, and

professional engagement. Tailored to the unique demands of emergency medicine, WeCare fosters a culture of collaboration and continuous improvement.

We aim to:

1. Describe how WeCare principles are introduced into workplace culture.
2. Assess the impact of structured social engagements on team dynamics and overall morale.
3. Evaluate the effectiveness of WeCare messaging in group communications to reinforce key values.

By detailing our initiative, we aim to provide a structured, scalable framework for high-pressure medical environments, demonstrating how leadership and targeted engagement strategies contribute to workforce well-being, retention, and improved patient care outcomes.

Methods

The WeCare initiative, originally a hospital-wide programme, was designed to foster mindset transformation and collaboration across NUH. Recognising the unique demands of Emergency Medicine, EMD expanded We Care, integrating department-led initiatives to enhance team cohesion, psychological safety, and engagement, ultimately supporting long-term workforce retention. This submission focuses on doctors in EMD, as nurses and administrative staff had separate programmes tailored to their roles.

Our initiative included:

1. WeCare Pioneer Training- EMD facilitators completed a hospital-led 2-day training on mindset transformation, self-betrayal, conflict resolution, and collaboration through case studies and video-based learning.
2. Doctor-Focused Dissemination- Off-site training incorporated interactive discussions and team-building activities for EMD physicians.1.
3. Ongoing Engagement- Reinforced through regular workplace discussions, multisource feedback evaluations (MSF), and structured social events held outside the hospital environment.
4. Evaluation- EES baseline data and post-implementation survey assessed impact on team culture, morale, and retention.

Findings will guide long-term workforce engagement strategies.

Results

The post-WeCare survey assessed the initiative's direct impact on team cohesion, psychological safety, and physician engagement within NUH EMD. To provide additional context, we compared key themes with the EES, recognising that while the questions differed, it provided a baseline for workforce engagement and morale, allowing for thematic comparisons. Findings from the post-WeCare survey indicate that the initiative contributed to stronger relationships, improved communication, and a more supportive department culture. 92% of respondents reported that their work felt meaningful and aligned with a culture of teamwork and professional fulfilment. 89% of staff experienced improved collegial support and communication, reflecting a positive shift in teamwork dynamics. 85% observed greater empathy and collaboration, reinforcing a more inclusive and psychologically safe environment, and addressing prior concerns highlighted in EES about psychological safety. This initiative strengthened peer accountability, as 78% of respondents felt more comfortable seeking and offering help to colleagues. Structured engagement activities, including MSF evaluations, interactive workshops, and ongoing workplace discussions about WeCare, were widely recognized for reinforcing WeCare principles. While some respondents noted the need for continued reinforcement, our results affirm that WeCare has successfully strengthened engagement, improved

workplace culture, and laid the foundation for long-term workforce retention in emergency medicine.

Conclusion

The WeCare initiative at NUH EMD demonstrated that structured, leadership-driven engagement strengthens team cohesion, psychological safety, and physician retention in high-pressure emergency medicine. Addressing the burnout, emotional fatigue, and workforce challenges, WeCare improved workplace relationships, communication, and reinforced professional fulfillment. Through mindset transformation training, MSF evaluations, workplace discussions, and off-site team-building activities, WeCare fostered a culture of accountability, collaboration, and trust- critical for sustaining performance in emergency medicine. Post-survey results showed most participants reported improved collegial support, workplace relationships, and a greater sense of professional fulfillment. Many participants felt more comfortable seeking help from colleagues and observed greater empathy and teamwork within the department. As a testament to its success, WeCare received the Joy@Work Award by the Society for Emergency Medicine, Singapore, in 2025, recognising its role in fostering a positive, supportive workplace. Beyond its immediate impact, WeCare serves as a scalable, replicable model for healthcare institutions navigating similar challenges with physician retention and burnout. Its structured, innovative approach for fostering workplace resilience, improving team dynamics and sustaining a committed healthcare workforce contributes to broader health service improvements, ultimately fostering workplace resilience, enhancing staff well-being and patient-care outcomes.

Conflicts of interest related to this abstract: None

P-1040

Leading for value-based healthcare: efficient financial resources allocation

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Introduction

Healthcare systems globally face the challenge of delivering high-quality care while managing limited resources. The gap between planned and executed strategies often hinders progress, making the adoption of efficient methodologies essential. At Hospital de Clínicas de Porto Alegre (HCPA), a public university hospital, this challenge is addressed through innovative management practices and structured processes to optimize resource allocation. With a focus on value-based healthcare, HCPA prioritizes infrastructure maintenance, technological advancements, and service expansion to meet evolving patient needs. This abstract explores how HCPA's leadership are facing challenges on scarce resource allocation to ensure efficient care delivery while mitigating risks and fostering innovation.

Aim/Objective(s)

The aim of this study is to demonstrate how HCPA's decision system methodology enhances operational efficiency and resource allocation.

Methods

HCPA implemented a structured methodology involving a multiprofessional team, an open annual internal proposal system, and a technology assessment tool. The team, comprising representatives from various departments, including care and administration, and external experts like the Economic Analysis team, reviewed 583 investment proposals totaling USD 22.152.621,82. Proposals were evaluated based on alignment with strategic goals, budget constraints, and potential impact

on care quality, teaching, and research. Data collection included automated depreciation analysis, maintenance reports, and risk assessments, with decisions supported by evidence-based practices.

Results

Based on the budget limit, the commission prioritized investments totaling USD4,800,880,41, focusing on areas with the highest risk and impact. Key outcomes included improved infrastructure, updated technology, and expanded services, all contributing to enhanced care delivery. The technology assessment tool streamlined decision-making, ensuring resources were allocated to projects with the greatest value. Additionally, the internal proposal system fostered transparency and collaboration, while evidence-based practices minimized risks and optimized resource utilization.

Conclusion

HCPA's leadership imperatives and financing models demonstrate how structured processes and evidence-based decision-making can drive value-based healthcare. By prioritizing investments with transparent methodology HCPA ensures efficient care delivery while maintaining high standards of financial accountability, quality and safety. These practices offer a replicable framework for other healthcare systems seeking to balance resource constraints with the need for innovation and excellence. The integration of multiprofessional collaboration, technology assessment tools, and evidence-based practices represents a significant contribution to healthcare policy and practice, promoting sustainable and patient-centered care delivery.

Conflicts of interest related to this abstract: None

P-1041

Leading with Love: An Evidence-Informed Framework for Health System Transformation to Value

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Introduction

The U.S. healthcare system is at a critical juncture, facing escalating costs, poor comparative outcomes, and unsustainable economic pressures. Despite significant spending, performance metrics lag behind global counterparts, and nearly 40% of health systems now operate with negative margins. While some past uncertainty around delivering high-value care has lessened, the challenge of transforming health systems remains daunting foremost. Many organizations struggle with deep-seated cultural norms, financial constraints, and the complexity of large-scale change. However, emerging leadership frameworks, such as "Leading with Love," provide a path to proven performance for navigating these challenges and fostering transformational change.

Aim/Objective(s)

This paper aims to present an evidence-based framework for healthcare transformation, focusing on leadership, team, and management capabilities. Specifically, it seeks to:

1. Define key leadership principles that drive organizational change.
2. Examine the role of psychological safety in fostering team collaboration and innovation.
3. Highlight management structures that enhance accountability, strategic alignment, and performance improvement.
4. Introduce the "Leading with Love" framework as a cohesive model for effective leadership in value-based healthcare.

Methods

A comprehensive review of leadership literature was conducted, integrating key findings from transformational leadership (Bass, 1990), emotional intelligence (Goleman, 1998), psychological safety (Edmondson, 1999), and management best practices (Bloom, 2012). Additionally, a case study analysis of our health system's journey toward value-based care was performed, assessing the impact of leadership strategies on organizational outcomes.

Results

Our health system's use of the "Leading with Love" framework has yielded measurable improvements in both clinical and operational performance:

- **MSSP ACO Success:** In a five-year time span, improved from the bottom 20% to the second-best performer nationally among one-sided ACOs.
- **National Recognition:** Awarded the Quest for Quality Award from the American Hospital Association and a finalist for the International Hospital Federation Excellence Award for Leadership and Management.
- **Cultural Transformation:** Increased engagement, collaboration, and innovation across teams, driven by psychological safety and shared accountability.

The framework, structured around three key concepts: Believe, Belong, and Build, fosters intrinsic motivation, cross-team collaboration, and structured accountability to drive sustainable transformation.

Conclusion

Transformational leadership in healthcare requires a shift from transactional models toward leadership strategies rooted in trust, collaboration, and accountability. The "Leading with Love" framework offers a structured yet adaptable approach to navigating the complexities of health system change. By aligning leadership behaviors with evidence-based principles, organizations can create high-performing cultures that drive sustained improvements.

Conflicts of interest related to this abstract: None

P-1042

Manila Doctors Hospital's Evidence-Based Culture of Nurse Retention

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Introduction

Nursing turnover is a global issue making it one of the rapidly growing human resource problems currently affecting the healthcare sector worldwide. In the Philippines, the turnover rate is common on nurses employed in private hospital than government hospitals, which also impacts the retention of nurses. This is even exacerbated by the present COVID-19 pandemic. As of August 2020, mean average years of retention of clinical nurses in Manila Doctors Hospital is 6.94 years.

Aim/Objective(s)

The purpose of this EBP project was to examine the best practice for retaining clinical nurse in practice of nursing in the institution. The researchers were guided with the following: Population: Manila Doctors Hospital Clinical Nurses. Intervention: Best retention strategies for clinical nurses by developing a culture of retention supported by evidence based program/ strategies. Outcome: 1) Increase patient satisfaction rating every

month with an upward trend 2) Decrease the turnover rate to less than 40% (a quarterly monitoring trends) 3) Implement the retention strategies plan outline deadline. 4) Increase conducive work environment index from 3.04 to 3.50 by 2023. This leads us to the question "Does development of culture of retention strategies by evidence based program strategies improve patient, nurse clinical and process outcomes among MDH clinical nurses?"

Methods

The research team formulated the PICO question "Does development of culture of retention supported by evidence-based practice strategies improve patient, nurse clinical, and process outcomes among MDH clinical nurses?" The team was guided by Johns Hopkins Nursing Evidence-Based Practice Model and utilized the databases of CINAHL, CINAHL PLUES, PubMed, EBSCO, and Joanna Briggs using the terms: hospital personnel, staff nurses, retention, retention strategies, retaining staff, Filipino nurses, compassion strategies. The researches have gathered good and consistent evidences. Based on these, the researches consider pilot of change or further investigation. Result of Literature Search: Total number of articles reviewed: 53. Total number of articles appraised: 37

Results

Nurses can be retained if there is:

- Presence of authentic leadership encouraged through exhibiting leader-member exchange and leader's behavioral integrity, and conducting leadership programs Provision of providing supportive work environment which encourages nurse autonomy, resiliency, flexibility, and self-efficacy through self-care workshops, coaching and mentoring
- Organizational commitment and on-the-job and off-the-job embeddedness
- Conduction of a nurse residency program which values the quality of orientation
- Proper conflict resolution that harness communication and listening skills; and championing the nurse
- Provision of rewards and recognition to the nurses
- Encouragement of an open communication through a Leadership framework
- Staff wellness through provision of education to staff, and ensuring positive personality traits and increased emotional intelligence
- Promotion of shared accountability and provision of adequate resource and staffing to workforce

Conclusion

The development and implementation of multiple nurse engagement programs have begun to support improved MDH nurse retention. Continuous monitoring of nurse retention indicators is ongoing, although external factors such as the COVID-19 pandemic, have affected the patient, nurse clinical, and process outcomes. The programs are continuously being improved through collaborative engagement with the institution's nursing leaders who support the program.

Conflicts of interest related to this abstract: NONE

P-1043

Microbriefs. A five minutes Cost-Effective and Structured In-Service Microlearning Approach to Nursing Competence

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Introduction

Traditional nursing education requires substantial financial and logistical investments from healthcare organizations. However, digital transformation has made microlearning an essential strategy for ongoing nursing education. This approach optimizes resources and enhances nurse engagement while addressing budgetary constraints in sustainable workforce development. In 2008, we developed an innovative microlearning strategy that was implemented from 2010 to 2016, offering a flexible method for nursing competence development. Unlike traditional self-directed learning, our initiative provided scheduled five-minute training sessions every Friday during shift changes (night-to-morning and morning-to-afternoon) delivered via webcast. Although previous evaluations focused on nurse adherence and satisfaction, the financial implications of this approach remain underexplored. This presentation examines the cost-effectiveness of the microlearning model and highlights its economic benefits for healthcare organizations, underscoring its role as a valuable complement to traditional training methods.

Aim/Objective(s)

The main objective of this study is to evaluate Microbriefs, a cost-effective, structured in-service microlearning approach designed to enhance nursing competence. This study will analyze the economic impact of the new approach by comparing its costs and outcomes with traditional training methods.

Specific Aims:

- Compare the financial investment of traditional training (based on pre-program data) with Microbriefs costs (technology, hours).
- Assess efficiency by analyzing the hours spent creating sessions over six years.
- Measure participant satisfaction in both methods.
- Evaluate long-term sustainability (financial and operational) across six years.

Methods

This descriptive, observational study examined the cost and participation outcomes of an in-service microlearning model (Microbriefs) versus the hospital's traditional training programs. The protocol received approval from the hospital's Ethics Committee (CEIC), adhering to institutional and national research standards. The study population comprised all registered nurses (N = 450) across multiple units. Baseline data on costs, participant hours, and satisfaction in traditional training were collected from the year preceding Microbriefs implementation, while data on Microbriefs covered a six-year period (2010–2016). Variables included technology investments (hardware, software), development hours per session, participant satisfaction, and attendance rates (live vs. offline). Due to the inherent differences in format and objectives between traditional training and microlearning, a descriptive approach was chosen, focusing on trends and patterns rather than inferential statistical comparisons. It enabled us to assess how Microbriefs influenced financial efficiency, nurse participation, and long-term sustainability.

Results

The five-minute Microbriefs program conducted 185 sessions over six seasons (2010–2016). We organized the sessions into eight thematic categories, with Clinical Practice dominating (53.5%). A total of 457 professionals contribute to session development, and the percentage of sessions authored by nurses increased significantly over time ($p = 0.046$). Overall, 15,661 professionals participated live, with an average of 95 participants per session; significant differences in participation were observed across seasons ($p < 0.001$). Participant satisfaction averaged decreased over the seasons ($p < 0.001$), indicating improved cost efficiency. Compared traditional continuing education (pre-intervention) with the Microbriefs model (post-intervention). Findings revealed a significant decrease in the number of events, training hours, and cost, alongside a notable increase in participant numbers and satisfaction, confirming the economic benefits and enhanced engagement.

Conclusion

The study demonstrates that the Microbriefs in-service microlearning model represents a cost-effective and sustainable complement to traditional nursing education. Over six seasons, Microbriefs significantly reduced the average session cost through improved resource allocation and lower development time while maintaining high levels of nurse engagement and satisfaction. Our findings reveal a progressive decrease in cost per session, while live session participation notably increased and satisfaction ratings improved in later seasons. Although traditional training programs encompass a diverse array of formats, the structured, brief, and scheduled nature of Microbriefs offers a unique advantage by seamlessly integrating into daily workflows without disrupting clinical operations. These results highlight the economic benefits and operational efficiency of adopting a microlearning approach in healthcare settings. The evidence supports the potential for Microbriefs to serve as a complementary strategy for continuous professional development, contributing to sustainable workforce development amid budgetary constraints.

Conflicts of interest related to this abstract: None

P-1044

MMHMC-Banna BUCAS Center: An Innovative Model for Advancing Universal Health Care through Decentralized Service Delivery

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Introduction

Equitable healthcare access remains a global challenge, particularly in resource-limited and geographically isolated areas. In the Philippines, archipelagic geography and socioeconomic disparities hinder timely healthcare access, leading to delayed diagnoses, preventable complications, and poor health outcomes. MMHMC's catchment include the Ilocos region and nearby provinces of Abra, Apayao, and Cagayan. However, residents of far-flung areas face significant barriers, including long travel times (2 hours on average), high transportation costs (₱1,000–₱2,000 per visit, which can represent 7% of the average monthly income for families), and income loss due to extended waiting times. These contribute to delayed diagnoses, preventable complications, and poor health outcomes. To address these challenges and align with the goals of UHC, MMHMC established the Bagong Urgent Care and Ambulatory Service (BUCAS) Center in Banna municipality; a decentralized service delivery model aimed at bringing quality healthcare closer to underserved communities.

Aim/Objective(s)

The BUCAS Center aims to: (1) Improve healthcare accessibility by reducing travel and waiting times for patients in Banna and surrounding municipalities. (2) Minimize the financial burden of healthcare access through lowering transportation costs and maximizing financial assistance programs. (3) Expand the range of healthcare services available at the community level. (4) Enhance patient referral efficiency through integration with MMHMC's Tangguyob Referral System, ensuring seamless coordination, particularly with emergency services. (5) Enhance patient satisfaction and engagement through regular stakeholder consultations, patient feedback mechanisms, and continuous service improvement initiatives. (6) Increase service utilization by vulnerable populations through empowering Barangay Health Workers (BHWs) for patient navigation, health education, and referral facilitation.

Methods

A mixed-methods approach integrating qualitative and quantitative data collection was employed to implement the project and evaluate its impact. Qualitative data were gathered through four stakeholder meetings among LGU officials, MMHMC department heads, and community leaders, selected through purposive sampling. These discussions led to key implementation strategies, including repurposing an underutilized municipal facility into a BUCAS Center, deploying Barangay Health Workers (BHWs) for patient navigation and referrals, conducting regular health advocacy lectures, and ensuring continuous quality improvement. Quantitative data collection involved demographic profiling, client experience surveys using a standard tool from the Department of Health (DOH), and operational metrics such as service utilization, waiting times, and out of pocket expenditure. Quantitative data were collected from outpatient records in the MMHMC's Electronic Medical Records (EMR) system and the Tangguyob Referral System. Descriptive statistics were used for data analysis.

Results

Since its soft launch in March 2024, the BUCAS Center has served three towns with a collective population of 49,510. It introduced ten additional services, significantly expanding the range of care available beyond the local health center's primary services. As of December, it catered to a total of 2,617 patients with an average of 270 patients monthly. Travel time to access care decreased substantially, from a mean of 2 hours to under 30 minutes, directly addressing the geographical barrier. Furthermore, waiting times for the entire consultation process were reduced from 2–3 hours to 90 minutes, demonstrating improved operational efficiency. The financial burden on patients was significantly lessened, with transportation costs dropping from ₱1,000–₱2,000 to ₱100–₱500 per visit. Critically, patients experienced zero out-of-pocket expenses due to optimizing government assistance programs. Integration with the Tangguyob Referral System streamlined emergency coordination, improving the patient referral process. Patient satisfaction consistently reached 99% based on the DOH Standard tool. Furthermore, there is an overall increasing trend in service utilization by vulnerable patients from February to December 2024. Quarterly stakeholder meetings with the LGU ensured sustained leadership and governance.

Conclusion

The BUCAS Center exemplifies a scalable model for advancing UHC through decentralized healthcare, effectively addressing access inequities in far-flung areas. By optimizing technology, partnerships, and financial resources, the center significantly improved healthcare access, reducing travel time, waiting periods, and economic burdens for patients. The integration of EMR systems and the Tangguyob Referral System highlights the transformative potential of digital health solutions in enhancing

rural healthcare delivery. Strategic deployment of BHWs improved patient navigation and outreach, particularly for vulnerable populations, while quarterly stakeholder meetings and cost-effective infrastructure repurposing reinforced sustained governance and partnerships. Monthly health promotion activities further bolstered community engagement and raised awareness of preventive care. This comprehensive, people-centered approach demonstrates how tertiary hospitals can decentralize services to bridge healthcare gaps in underserved regions. The BUCAS Center's success in improving efficiency, reducing barriers to care, and achieving high patient satisfaction provides valuable insights for scaling similar models. Future studies on its long-term impact on health outcomes and cost-effectiveness could strengthen evidence-based policies for UHC. The initiative underscores the importance of community engagement and culturally responsive care in promoting equitable healthcare access, offering a practical blueprint for improving health equity in resource-limited settings.

Conflicts of interest related to this abstract: None

P-1045

Integrating Public and Private Resources for Effective Mobile Mammography Programs

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Introduction

In Taiwan, breast cancer is the most prevalent cancer among women, with the highest incidence rate observed in recent years. The Health Promotion Administration under the Ministry of Health and Welfare recommends biennial mammography screening for women aged 40 to 74. Regular mammographic screenings are crucial for early detection of breast cancer, when treatment is most effective, underscoring the importance of screening in women's health care. In 2022, the average screening rate was 39.8% reported by the Health Promotion Administration. In remote areas, many residents are underserved. Tainan Hospital, affiliated with the Ministry of Health and Welfare, has a mission focused on "Implementing Government Policies for the Care of Vulnerable Groups and Healthcare."

Aim/Objective(s)

Female residents in remote areas often face barriers such as limited healthcare access, transportation difficulties, cultural and language challenges, unfamiliarity with the healthcare system, and a shortage of healthcare providers. This program aims to enhance access to breast cancer screening.

Methods

This innovative program integrates public and private resources to create a mobile mammography van that delivers services to remote health stations in small villages such as Nanshi, Daan, Zuochen, and Shanshang in eastern Tainan City. The screen program includes:

1. Mobile Screening: Deploy a mobile Mammography van in health clinics to reach underserved populations.
2. Telemedicine Services: Utilize telehealth platforms to connect patients with case managers for consultation and follow-ups, enabling remote diagnosis and monitoring.
3. Community Health Workers: Train local health workers to educate communities about the importance of early detection.
4. Partnerships with Local Organizations: Collaborate with non-profits and local governments to organize screening events.

5. Awareness Programs: Implement educational initiatives to raise awareness about symptoms and risk factors associated with tumors, encouraging earlier visits to healthcare facilities.
6. Policy Advocacy: Advocate for policies that support funding and resources for early detection initiatives in rural and remote areas.

Results

Mobile mammography services enhance access to early-stage tumor detection, helping to prevent advanced-stage malignancies in vulnerable populations. From May 2022 to January 2025, this project conducted 374 screening events, reaching 8,817 females with a positivity rate of 9.85%. A total of 77 cancer cases were confirmed, with 27% at stage 0, 52% at stage 1, 18% at stage 2, and 3% at stage 3.

Conclusion

Mobile mammography plays a crucial role in improving access and equity in breast cancer screening and outcomes. The early-stage tumor detection rate reaches 79%, and first-time screening participants make up 1791 participants and 20% of all. The key to success lies in the integration of resources and cooperation among public health providers, as well as financial support from non-profit organizations. The mobile mammography van1.

leveraged by selecting crucial representatives from breast cancer patient-group, and promoting screening activities through word-of-mouth marketing by local citizens.

Conflicts of interest related to this abstract: None

P-1046

Decision-making in complex crises: a case study of an International Committee of the Red Cross hospital project in Lebanon

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Introduction

Decision-making in humanitarian crises is rarely evidence-informed and accessing information that can support informed decisions in situations characterized by complexity, like humanitarian settings, is challenging. It has been argued that it would be important to deconstruct the uncertainty of the situations in which humanitarian organizations operate and include it in the prioritization exercises for health systems strengthening interventions in low- and middle-income countries in general, and even more so in conflict-affected settings. The International Committee of the Red Cross (ICRC) intervenes in conflict settings and other complex situations characterized by violence, and is often confronted with multi-layered crises, uncertainty, and volatility. Understanding its decision-making processes and how these influenced continuity of service provision can provide insight on how to operationalize resilience-oriented interventions in these contexts.

Aim/Objective(s)

The overall aim of this research is to analyze decision-making of a humanitarian organization operating in a complex environment, as this is one key governance process known to enable organizational resilience.

The primary objective is to analyze the decision-making processes adopted by the ICRC middle and senior management that influenced the resilience – or lack thereof – of its hospital-based health operations in the major governmental hospital of Beirut, Lebanon, during a ten-year period of compounded crises. This is expected to contribute to building the evidence on pragmatic approaches to strengthen health systems resilience in complex humanitarian crises.

Methods

We conducted qualitative research using a case study approach. The case study under investigation is a multi-year, multi-partner hospital program implemented by the ICRC in the major governmental hospital of Beirut, Lebanon, in collaboration with an international development agency and the national Ministry of Public Health. Twenty in-depth semi-structured interviews with key informants were conducted between 5th December 2023 and 11th March 2024. ICRC staff members were purposively sampled from middle and senior management, which include staff members who were involved in decision-making processes on different aspects of the projects, ranging from technical matters, budget overview, and human resources supervision, to security and humanitarian diplomacy at country level. Qualitative content analysis was performed on the transcripts with the Atlas.ti software, with a blended inductive and deductive coding approach, drawing on the existing resilience frameworks for health systems resilience.

Results

Twenty ICRC staff in leadership positions out of the 40 invited accepted to participate. Data emerging from the interviews suggests an evolution of the decision-making from the individual to the institutional level, from the emotional to the cognitive sphere, and from the tactical to the strategic domain. As time progressed, deliberative processes started taking place, to achieve consensus on the adaptations needed in the response in the medium term. These processes were highly iterative, at times conflictual, and facilitated by more inclusive leadership practices. When the project reached maturity and found its cruising speed, organizational changes beyond the Lebanon delegation started taking place, leveraging on the learning from this specific project implementation and on the continuity of vision of key leaders who transitioned from the project site to global roles in the organization's headquarters. Such learning translated into the adoption of holistic approaches to complexity, including systems thinking methodologies to inform project design, implementation, monitoring and evaluation.

Conclusion

The institutional learning process is strongly dependent on the continuity of project funding and implementation on one side, and on the coherence of leadership vision on the other. Key people – rather than processes – appear to be the strongest drivers for change, which suggests that leadership is a necessary soft skill to be nurtured at all levels within organizations to sustain their resilience. The ICRC and humanitarian organizations globally more broadly cannot avoid complexity. Adopting systems thinking approaches can be a successful way to navigate the interconnected challenges that emerge in situations of protracted crises, as it has been the case in Lebanon.

Conflicts of interest related to this abstract: None

P-1047**New organizational surgical model in hospital: a prospective interventional study**

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Introduction

Workforce shortage is an important today's drama which affect several hospital in Europe. In Italy, a high turnover of nurses has been detected after COVID-19 pandemic. Many nurses have moved in Northern Europe or other countries where salaries are more competitive, or they have been working privately as freelance professionals. Therefore, it is necessary to reorganize the nursing staff in hospital to deal with workforce shortage, to guarantee healthcare services and to meet health needs. The context in the Santa Croce e Carle hospital is troublesome on the nurse side and so a new organizational model is needed.

Aim/Objective(s)

The operating block (OB) reorganization by care level is required to achieve the best international practices on the one hand, and to overcome the nurse shortage and to guarantee the continuity of healthcare services on the other hand. The hospital general direction aims to obtain more efficient human resources organization, achieving the same target of healthcare services volumes and quality. In this view, the high volume-low complexity-short stay model is a new path which is spreading in several health systems worldwide,

Methods

A prospective study will be carried out. The first step consists of mapping activities and human resources for each operating room (OR). Diagnosis Related Group (DRG) generated by each surgery admission and all procedures (ICD-9) and Case-Mix Index for each OR are analyzed by a Surgical Activity Organizing Team (SAOT) to know the OR care level intensity. SAOT put together the MD responsible for OB organization, the directors of surgery departments and the medical direction. The updated situation and the analysis of the collected data are the bases for the OB reorganization proposal, settled in July. The project will be implemented in September and tested for 4 months, monitoring outcomes (healthcare workers overtime, satisfaction and stress, surgical volume, surgical quality, incidence of Healthcare Associated Infections (HAIs)). After this experimental phase, the hospital direction will decide to maintain the new workflow model or to come back, based on monitoring data.

Results

Results are expected to be outstanding in many fields. First of all, the proper allocation of nurses to each OR based on the effective need in reason of the care level should be achieved. On the one hand, this involves a personnel reduction, increasing efficiency and reducing HAIs risk, on the other hand this reorganization ideally entails to stop overloading nurses in other ORs. So, this could bring to lowering downtime and to a more suitable work environment, with a reduction in work distress and burnout, linked also to a reduction in workers' overtime. The consequent cost reduction and a more efficient use of human resources lead to a more appropriate use of ORs and OB. Lastly, adapting human resources at intensity care level in ORs allow to not move nurses from other services: so, it leads to the maintainment of other healthcare services, without decreasing surgical procedures (and so, the patients' waiting list).

Conclusion

The innovative model of OB organization by care intensity level is the new frontier of appropriateness of healthcare usage and

it is addressed to reach the most valuable and efficient healthcare service level. This also reflects the urgency and the need to face the workforce shortage. This pioneering promising pilot study aim to highlight new organizational model to structure the future best healthcare service into a complex surgical context.

Conflicts of interest related to this abstract (No answer)

P-1048

Organizational and Managerial Impact of a major Hospital Redevelopment: The case of Sacco Hospital in Milan

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Introduction

ASST Fatebenefratelli Sacco is one of the leading public healthcare organizations in Milan, comprising four hospitals, five territorial districts and 37 territorial healthcare facilities, serving a population of approximately 750,000 residents. Within this context, the Sacco Hospital stands out as a prominent national center specialized in infectious diseases and bio-emergencies. During 2023-2024, Sacco Hospital faced considerable organizational challenges due to extensive hospital redevelopment projects funded through Italy's National Recovery and Resilience Plan (PNRR/PNC). These renovations led to the temporary closure of 119 hospital beds out of 467 (-25.5%) and the intra- and inter-hospital relocation of 121 outpatient clinics and healthcare services, significantly impacting hospital operations.

Aim/Objective(s)

This study aims to assess the organizational and managerial impact of the hospital redevelopment on Sacco Hospital's inpatient and outpatient activities. The primary objective is to analyse how the hospital Management responded to capacity reductions and service relocations, identifying the effectiveness of adopted strategies to minimize disruptions and maintain care continuity and financial sustainability.

Methods

The research employed a comparative analysis of clinical activity and financial data from 2023 and 2024, focusing on hospital admissions, length of stay, and outpatient performance indicators. Additionally, the study evaluated specific organizational measures implemented across the ASST Fatebenefratelli Sacco hospital network to compensate for reduced capacities at Sacco Hospital, examining shifts in patient flows, resource redistribution, and overall effectiveness in mitigating potential negative outcomes.

Results

Sacco Hospital experienced a reduction of 22,286 inpatient days (-21.6%) and a consequent financial shortfall of approximately €11.3 million (-21.7%) related to inpatient services. Nevertheless, strategic reallocation and organizational adjustments across the healthcare network significantly mitigated the impact, containing the overall reduction in inpatient days to -11.6% and limiting the loss in Diagnosis-Related Group (DRG) revenues to -10.6%. In outpatient services, despite a minor decline of 13,172 procedures (-1.25%), Sacco Hospital recorded a 2.6% increase in revenue, reflecting a successful shift toward delivering higher-value specialty care.

Conclusion

The experience of Sacco Hospital demonstrates the critical importance of proactive and adaptive hospital management in addressing challenges posed by significant infrastructure redevelopment projects. Through strategic planning, resource reallocation, and enhanced inter-hospital coordination, Sacco hospital was able to limit operational disruptions, ensure continuity of patient care, and effectively manage financial pressures. This case highlights the resilience achievable by healthcare organizations when responding systematically to extraordinary infrastructural challenges.

Conflicts of interest related to this abstract: None

P-1050

Perspectives and challenges of pricing policy in health care – an experience of Center of Hearing and Speech MEDINCUS in Poland

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Introduction

Numerous countries developed and introduced specific price settings, regulations, and specific institutions and entities to carry out these processes (Barber, Lorenzoni & Ong, 2019a,b, Murray, 2022). However, implementing internal pricing policies within medical entities is important. Krentz and Jennings (1986 in Sirur & Pillai, 2024) identified some pricing objectives: profit maximisation and current revenues, target profit, promotional pricing, increasing market share and market skimming. Some more common pricing strategies (or pricing practices) are also identified, such as cost-oriented, demand-oriented, and competition-oriented. Factors affecting the pricing policies in medical entities are institutional factors (private/public units), cost factors, supply factors, and demand actors (based on patient's characteristics), market structure, pricing regulations on the national and international levels, and third-party reimbursements (Sirur & Pillai, 2024). Medical entities, including hospitals, must define strategic plans for creating and developing pricing practices within their internal structure.

Aim/Objective(s)

This presentation aims to share the experience of the Center of Hearing and Speech MEDINCUS in Poland in creating, implementing, and developing pricing policies in the MEDINCUS hospital and medical facilities worldwide (in Poland and abroad). The perspectives, benefits and challenges will be presented.

Methods

We analysed the statistical data of performed services between 2022 and 2024 when the changing pricing policy was implemented. We raised prices twice within two years, one yearly raise, adding about 10% for every service annually

Results

We can show that due to the dynamic development of the Center of Hearing and Speech MEDINCUS network in Poland and abroad, the continuous improvement of the quality of services, etc., a pricing policy with increasing prices of services does not result in a loss of patients. We observed an increase in the number of patients between 2022 and 2024 in Poland, with a slight decrease in the number of surgical procedures in the last year compared to 2023 but still a higher number of surgeries than in 2022. In 2022, we provided services to 143,257 patients, performing 97,367 hearing examinations and 2,557 surgical procedures. In 2023, we provided services to 174,471 patients (around 20% more than in 2022), performing 118,851 hearing

examinations and 3,067 surgical procedures. In 2024, we provided services to 194,532 patients (around 10% more than in 2024), 156,146 hearing examinations, and 2,971 surgical procedures. In our centres abroad, we also observed an increase in the number of patients; in 2024, we served 26,262 patients.

Conclusion

Demonstrating by our example that a well-calculated pricing policy is a guarantee of success in healthcare units. A significant lowering of the price of medical services does not improve patients' confidence to be provided with high-quality services. In fact, it has the opposite effect. In addition, lower pricing may cause a reduction in the quality of services. Raising pricing for services does not necessarily mean losing patients or customers. It might help with increasing the number of patients if the price is matched by quality, the reputation of the center and specialists, the quality of services or even the quality of equipment and technology. All of that contributes to patient satisfaction and thus does not raise concerns about 'scaring' patients away with too low or too high prices.

Conflicts of interest related to this abstract: (No answer)

P-1051

Physician-driven leadership: transforming healthcare governance for sustainable and integrated care

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Introduction

In 2024, Réseau de l'Arc (RdA) became the first integrated care organization to implement a concrete initiative aimed at improving healthcare quality while reducing costs – two critical challenges in today's healthcare landscape. The launch of VIVA, an innovative health insurance model based on an integrated care organization, required a comprehensive and strategic approach. Achieving these long-term objectives would not be possible without the full engagement of the medical workforce. As the cornerstone of a sustainable healthcare system, yet subject to increasing regulatory and financial pressures, the medical profession itself must be supported and safeguarded. To address this purpose, Réseau de l'Arc has undertaken a fundamental transformation to systematically integrate physicians into hospital management, granting them a central role within the organization. This strategic shift aims to enhance professional engagement, strengthen physician well-being, and ultimately improve healthcare.

Aim/Objective(s)

The transformation of the medical workforce within RdA aims to actively involve physicians in hospital governance, recognizing them as key stakeholders in institutional evolution.

The objectives include:

- Establishing a sustainable integrated healthcare model, a pioneering initiative in Switzerland, to enhance population health while maintaining cost control.
- Strengthening financial performance and long-term institutional viability, acknowledging that physicians are deeply invested in the hospital's success both professionally and personally.
- Optimizing care quality by actively engaging physicians in continuous improvement through structured tools and leadership roles.
- Advancing the threefold mission of healthcare institutions – care, research, and education – despite the absence of a university-affiliated framework.

- Enhancing physician well-being by addressing financial security, professional development, work-life balance, and their level of influence within the institution.

By integrating entrepreneurial and managerial principles into hospital governance, this approach fosters a culture of shared responsibility and innovation within the medical community.

Methods

To successfully integrate physicians into hospital governance and strategic planning, RdA has implemented key initiatives:

- Financial transparency and education – Ensuring physicians understand the economic implications of their clinical activities, fostering accountability and strategic engagement.
- Structured dialogue between physicians and leadership – Establishing regular, open discussions to align medical and institutional priorities through a shared vision.
- Continuous improvement framework – Engaging physicians in systematic analyses of patient pathways and care processes to enhance efficiency and quality.
- Multidisciplinary and multimodal interventions – Incorporating diverse healthcare stakeholders to promote a population health approach and optimize care outcomes.
- Medical Affairs Unit – Supporting physicians in leadership development, professional growth, and well-being through structured initiatives.
- Physician onboarding and retention – Implementing a dedicated program to facilitate physician integration and long-term engagement.

These initiatives represent a fundamental cultural shift, reinforcing physician involvement in institutional strategy. Within a few years, they have demonstrated significant impact on engagement, care quality, and organizational sustainability.

Results

The role and culture of physicians within RdA have undergone a significant transformation, reinforcing their influence on healthcare system efficiency. By fully understanding their place within the hospital's value chain, physicians now actively contribute to institutional performance.

- Financial sustainability and strategic investment – The institution has become one of the few financially self-sufficient public hospitals in Switzerland, enabling reinvestment in long-term initiatives such as integrated care models, the creation of specialized units, including a clinical epidemiology department and a hospital at home service.
- Commitment to quality improvement – A strong culture of continuous improvement now defines the physician's role, restoring professional purpose and enhancing patient care. Multidisciplinary boards, integrating specialists and external stakeholders regularly address complex chronic cases.
- Physician-driven governance – The key to success has been the structural integration of physicians into institutional strategy, fostering trust, providing targeted training, and granting greater financial responsibility.

This cultural shift has yielded measurable results: despite its rural and peripheral location, the hospital has successfully recruited over 50 physicians in three years, significantly strengthening its medical network.

Conclusion

A physician-driven management approach strengthens institutional resilience, enhances care quality, and improves financial sustainability. By actively involving physicians in strategic decision-making, hospitals can:

- Successfully navigate complex structural changes.
- Improve patient-centered care and population health outcomes.
- Enhance physician well-being and professional fulfillment.
- Ensure long-term institutional viability.

This experience highlights that physician engagement is a critical success factor in healthcare transformation. By fostering collaboration, adaptability, and leadership, hospitals can implement sustainable models of care that align with evolving healthcare demands while maintaining high-quality service delivery.

Conflicts of interest related to this abstract: None

P-1052

Systems for Setting Prices for Hospital Care: A Comparative Analysis Across Seven Central and Eastern European Countries

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Introduction

The process of setting prices (tariffs) constitutes the core element of healthcare provider payment schemes. Driven by four main considerations (the cost of delivering services, available resources, negotiation with providers, and policy objectives), it steers provider behavior. Central and Eastern European (CEE) countries share many common characteristics in terms of hospital care organization and financing. The majority of CEE countries have more hospital beds per 100,000 inhabitants than the European Union (EU) average of 516.3, while at the same time, total expenditures for hospitals, measured in purchasing power standard (PPS) per inhabitant, are well below the EU average of 1342.7 (2022). Public, non-profit hospital bed provision prevails, funded mostly by social health insurance schemes (Table 1). Many CEE countries struggle with the problem of financial debt generated by public hospitals, driven by, among many other factors, inadequate (below the actual cost level) pricing of hospital services.

Aim/Objective(s)

The objectives were to: 1) provide a structured comparison of the systems for setting prices (tariffs) for hospital care services provided within public health insurance schemes across seven CEE countries (Bulgaria, Estonia, Czechia, Hungary, Lithuania, Poland, and Slovenia); 2) identify current challenges and define policy recommendations.

Methods

The methods involved three consecutive steps: 1) a data collection form was developed based on existing literature on the core elements of healthcare service price setting systems and hospital service costing methodologies (Table 2); 2) national experts from the respective countries were contacted with a request to fill in the data collection form (purposive sampling and snowballing methods were used to identify adequate experts); 3) a comparative analysis with several data validation

rounds was conducted. The study was conducted between September 2024 and February 2025.

Results

Results indicate that the overall structure of the price setting process for hospital care (within public health insurance schemes) is similar across all analyzed countries. It involves four consecutive steps: 1) cost data are reported by hospitals based on a pre-defined template; 2) a dedicated government institution analyzes the data and calculates the tariff bases; 3) a base rate, defined by the payer's budget capacities, is applied; 4) the payer adjusts the final price of specific services to meet pre-defined policy objectives. However, the details of each of these steps can vary significantly between the countries. Hungary is the only country without a structured cost data collection process. The remaining countries vary, e.g., in relation to the obligation and scope of reported cost data, details of the methodological approaches for tariff base calculation, and the role of negotiations with providers within the process. CEE countries face similar challenges in building effective price setting systems. They are related to: 1) incompleteness and low quality of cost data gathered from hospitals; 2) insufficient institutional capacities of both hospitals and organizations responsible for tariffification; 3) methodological challenges of the costing model; 4) barriers driven by the health system context (Table 3).

Conclusion

The seven CEE countries (Bulgaria, Estonia, Czechia, Hungary, Lithuania, Poland, and Slovenia) are at different stages of advancement in their systems for pricing hospital services within the public health insurance schemes. While in some countries, hospitals must follow detailed costing standards and report comprehensive data, including micro-costing estimations, in others, there are no dedicated costing standards for hospitals, and/or data reporting is limited to general cost categories per hospital or ward level. In most countries, the tariff base is calculated to reflect the average actual cost, with very limited initiatives related to 'best practices cost calculations' or inclusion of hospitals' special characteristics (e.g., university clinics). There is a strong need to support investments in data infrastructure and improvement in system governance across all analyzed countries. Digital solutions could enhance the efficiency of the process by limiting the potential trade-off between the timeliness and accuracy of cost data reporting and feasibility constraints. Yet, their implementation must be complemented by an adequate regulatory framework, comprehensive training options, and strong leadership at both regulatory bodies and individual hospital levels. Due to the similar health system context of CEE countries, there is a huge potential for shared cross-country knowledge transition.

Conflicts of interest related to this abstract: None

Table 1. Overview of the payment systems for hospital care (as of December 2024)

Country/ Feature	Health insurance payer structure	Total expenditures for hospitals in PPS per inhabitant (2022)*	Share (%) of publicly funded expenditures for hospitals in total expenditures for hospitals (2022)**	Payment methods applied for care provided in hospitals (within public health systems)		
				Inpatient care (> 24h)	Outpatient Care	Emergency Care
Bulgaria	single payer, centralized (with 28 regional branches)	655.3	92.1%	Case payment (clinical pathways and clinical procedures); per diem	Case payment (ambulatory procedures)	Lump sum (fixed payment)
Czechia	multiple payers, with limited competition	1353.3	96.9%	Global budget (based on DRGs volume targets), DRGs, Fixed payment (for palliative care)	FFS + Case payments (day surgeries), P4P elements (dialysis providers)	Lump sum (fixed payment), FFS
Estonia	single payer, centralized	846.4	96.4%	DRGs, FFS, Per diem, Bundled payments (for knee and hip replacement and stroke patients), Global budget (for rural and small general hospitals)	FFS + P4P elements (video consultations)	Lump sum (fixed payment), FFS
Hungary	single payer, centralized	779.5	96.4%	DRGs (for active care), Fixed payment (for salaries), per diem	FFS + Fixed payment (for salaries)	Lump sum (fixed payment), DRGs, FFS
Lithuania	single payer, centralized	724.9	93.5%	DRGs, FFS, Per diem	Case payment, FFS (for expensive procedures and examinations)	Lump sum (fixed payment)
Poland	single payer, centralized (with 16 regional branches)	826.8	95.2%	Global budget (based on DRGs volume targets) for hospital included in network, DRGs, P4P elements, FFS, per diem	Per visit payments (adjusted for number and type of services) + FFS, P4P elements (oncological network)	24 hours lump sum (fixed payment)
Slovakia	three competing payers (insurance institutions)	664.1	87.7%	Prospective budget (based on DRGs volume targets)	FFS	Lump sum, FFS

*EU average 1342.7 PPS (purchasing power standard) per inhabitant **Calculated as expenditures for hospitals financed from HF1 (Government schemes and compulsory contributory health care financing schemes) per expenditures for hospitals financed from TOT_HF (All financing schemes); EU average 95.45%

Table 2. Data collection form overview

Data	Country:
A -Hospital sector capacities and payment methods	
A.1. What is currently the total number and ownership structure of hospital units (hospital defined as: an acute in-patient care unit with patient stay of above 24h; nursing, long-term care and solely day-care units excluded)	
A.2. What is the dominant funding model and the public payer structure.	
A.3. Describe what payment methods are used in hospital care (both in-, outpatient and emergency care). - Is it possible to indicate the dominant payment method (one that cover majority of providers budget or payer spending)? - Are there differences between public and private hospitals?	
B – Existence of costing standards	
B.1. Are there formal regulations or guidelines regarding the cost standards in hospitals? - if formal regulation exists - does it cover all hospitals (e.g. regardless ownership); - if only voluntary guidelines exists – are there any data on share of hospitals following them? - what elements are included in existing costing standards (e.g. only cost centres and cost categories structure, or also formulas for final product calculation)?	
C - Collecting cost data from hospitals	
C.1. Describe the process of collecting cost data from hospitals: - who gathers the data (is there a separate technical agency responsible for gathering and analysis cost data – if yes, what are its institutional capacities) - is providing data obligatory or voluntary? - how many hospitals provide data? (what share of all hospitals do they constitute?) do they receive any form of compensation for data sharing? - what type of data are reported?, what type of data are excluded? - does reported data undergo quality control check? - what is the frequency of data reporting?	
D - Price setting process	
D.1. Describe the process by which the price is determined: - what tariff bases are used? - how the reference cost (average cost) is calculated? - how would you classify the costing approach used - indicate between: micro vs gross costing; top-down vs bottom-up (refer to the 'Costs methodologies classification matrix' below) - what is the time lag between cost data acquisition and price setting? - how often are tariffs adjusted (e.g. for inflation)? - does the process involve public consultation?	
Costs methodologies classification matrix:	

Source: based on Tan, S.S., Rutten, F.F.H., van Ineveld, B.M. et al. Comparing methodologies for the cost estimation of hospital services. <i>Eur J Health Econ</i> 10, 39–45 (2009). https://doi.org/10.1007/s10198-008-0101-x		
D.2 What price adjustments are used (and what are their objectives) e.g.: disease/patient specific; for highly specialized clinics vs general hospital; for educational activities; based geographical on location.		
D.3. Are there negotiations with providers involved - indicate between:		
- individual vs collective negotiation - no negotiations - unilateral price settings (by regulator)		
D.4. What are information disclosure standards (what type of price data are publicly available)?		
E – Challenges of the price setting process		
E.1. Describe what are in your opinion the main challenges of the price setting process? If available please provide examples of research evidence on evaluation/challenges of the price settings.		

Table 3. Challenges related to the price setting process

Area	Examples
Completeness and quality of the cost data gathered from hospitals	- Hospitals' coverage: relatively low number of providers reporting data when participation is voluntary (Estonia) or when there are no regulatory tools to enforce the obligation to provide data (Poland); - Quality of the reported data: low quality of the reported data, e.g. when data are not complete (Slovakia, Poland) or not reported according to the pre-defined standards (Poland)
Institutional capacities of the involved organizations	- Institutional capacities of the leading organizations: not enough experts employed in the organizations responsible for the tariffication process (Estonia, Hungary, Lithuania) - Institutional capacities of the hospitals: technical limitation of the hospitals IT systems, that do not allow for effective data processing (Slovakia) or, interoperability (Poland); lack of adequate skills among administrative staff or lack of cooperation between medical and administrative staff needed for conducting micro-costing estimations (Poland)
Methodological approach	- Including hospital characteristics: lack of mechanism for including differences in hospital costs depending on localization, specialization or additional task carried out by hospitals e.g. local hospitals vs university clinic (Bulgaria, Czechia, Poland) - Complexity of the costing model: high complexity of the methodological approach limits its understanding among providers (Estonia, Poland) - Accuracy of depreciation costs: lack of legal tools to assure standardization in calculating long-term costs of assets depreciation (Lithuania) - Adjusting for inflation: lack of adjusting for inflation, especially in cases when the time lag between the cost data acquisition and setting prices is long leads to situation where the new tariff is outdated at the moment of implementation
Health system context	- Payer's budget: insufficient available funding reflected in the base rate can impact the final price to be below the average actual costs (Bulgaria, Hungary, Slovakia) - Governance of the process: insufficient communication between the involved stakeholders (Slovakia) or lack of transparency (Bulgaria) undermine provider's trust; lack of strong political leadership hinders implementation of dedicated system at the system level (Hungary)

P-1053

PRIVATE INTEGRITY PROGRAMS AND THE UN 2030 AGENDASUSTAINABLE DEVELOPMENT GOAL 16: More Sustainable Hospitals

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Introduction

Private Integrity Programs, legally established and evaluated by the Comptroller General of the Union/Brazil, present compliance pillars for the formation of more transparent, ethical and efficient conduct and which are connected to objective no. 16, of the United Nations Program for global sustainable development (Agenda 30). Agir – Association of Management, Innovation and Results in Health – joined the Brazil Pact for Business Integrity, a government initiative that evaluates the effectiveness of these Integrity Programs to combat corruption. It also formed the Brazilian Consensus Framework for multisectoral ethical collaboration in the health sector, a self-regulation movement in health, to combat corruptive practices in the sector, led by the Instituto Ética Saúde. Agir interrelated its strate-

gic objective of strengthening ethical culture and pillars of compliance with the United Nations Sustainable Development Goal No. 16, with recognized positive impact results.

Aim/Objective(s)

Disseminate to other health organizations the adopted strategy of implementing good Compliance practices among its employees, partners and patients, and execute them as a Private Integrity Program until the maturity of submitting it, spontaneously, to verification of effectiveness by the Comptroller General of the Union, for adherence to the Brazil Pact for Business Integrity. Strengthen voluntary and joint collective initiatives for private integrity, such as adherence to the Brazilian Consensus Framework for multisectoral ethical collaboration in the area of health, led by an associative entity (Instituto Ética Saúde). Demonstrate the feasibility of complying with UN SDG 16, based on the good practices of Private Integrity Programs and their compliance with this objective of sustainable global development.

Methods

AGIR formally adhered to the Brazil Pact for Business Integrity on October 10, 2024, with its legal representative attesting to compliance with the documentary requirements required by the CGU and indicated both in Brazilian anti-corruption legislation – Law 12,846, and in its regulatory standard – Federal Decree

11,129. A self-assessment of the institutional Integrity Program was also carried out by Agir's Compliance Head, with an analysis of the nineteen sections of the form structured by the Comptroller General of the Union – from checking whether the senior management members of the participating entity unequivocally support the implementation of integrity measures, by participating in the construction and approval of institutional policies, as well as whether they supervise their application, by analyzing periodic reports produced by the body responsible for the Integrity Program. A structured form was developed and applied, based on the vectors of the risk identification instrument, based on anti-corruption legislation.

Results

The interrelationship between the systematic compliance practices structured by Agir and audited by the state entity, are further strengthened by multisectoral cooperation in the field of health for the implementation of a culture of peace, justice and effective institutions (SDG 16), measured by documentary evidence (terms of adherence), as well as by public certificates – awards from public health units managed by the social health organization Act as the best public hospitals in the country, with efficient application of public resources and transparency of this data, duly made available to society, a requirement also awarded. The ranking was created in 2022 by the Brazilian Institute of Social Health Organizations (IBROSS), in partnership with the Pan-American Health Organization (PAHO), the National Accreditation Organization (ONA) and the Instituto Ética Saúde (IES), which mapped the forty best public hospitals in the country using objective criteria. The Dr. Henrique Santillo State Center for Rehabilitation and Readaptation – CRER reached 14th place in the ranking and the Governador Otávio Lage de Siqueira State Emergency Hospital – Hugol, 23rd place, public health units that promote highly complex care in the State of Goiás, managed by Agir.

Conclusion

This decision-making and action through Integrity is essential not only to direct the final application of public resources and deliver efficient services, but also to promote an ethical culture, of transparency and responsibility, which must permeate all areas of public and private administration in the country. In this way, by implementing and implementing the Private Integrity Program to implement health management and submitting it for evaluation by the Comptroller General of the Union/Brazil, Agir highlights the plausibility of Sustainable Development Goal No. 16 of the United Nations, when it presents results in managed public hospitals that positively impact society and that fit the paradigm of effective institutions for sustainable global development (UN agenda 30).

Conflicts of interest related to this abstract: None

P-1054

Providing Stewardship to the National Public Hospital sector –Developing a Strategy to strengthen Public Hospitals in South Africa.

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Introduction

30 years post – apartheid, access to care and health outcomes have significantly improved; social determinants of health are worsening, including austerity implications for health services, the burden of disease is changing, with significant quality of

care challenges across many hospitals. Important lessons have been learnt during Covid and adverse events from climate change that must inform pandemic and disaster preparedness planning. Hospitals are also a significant carbon emitter and must mitigate their contribution. The National Health Insurance Act has been passed, which envisages a different financing model across a health service platform with both public and private providers. Hospitals operate within, and their performance is integrally influenced by, a broader health ecosystem. How do hospitals strategically re-set within this dynamically changing and complex context, align with broader health reform strategies, and what should the short to medium term priorities be for the next five years?

Aim/Objective(s)

To embark upon a consultative engagement process with provinces and their hospital management teams, other branches within the NDOH and other stakeholders to develop a five year (2025-2030) hospital strategy for South Africa.

Methods

- A desktop review of the reports from previous technical work done on hospitals in the country since 1994 was undertaken and the themes summarised.
- A concept note was developed that outlined the objectives, the envisaged process of engagement and governance arrangements to provide oversight and used to secure a formal mandate to undertake this exercise.
- Two day consultative workshops were convened in each of the nine provinces. Out of the desktop review and current context, commissions around three themes were facilitated in the workshops i.e. 1) Leadership, Management and Governance 2) Service Delivery Improvement and 3) Strengthening support services. The workshops were well attended by between 100 and 220 per session and included provincial managers, Hospital management teams and support service managers.
- Engagements were held with other Branches at NDOH to ensure alignment and cohesion of strategies.

Results

The rich outputs, which included challenges and interventions from all nine workshops, were distilled into a SWOT analysis and used to inform the goals and strategies for the next five years in a first draft of the Hospital Strategy:2025-2030. Further engagements will be held with external stakeholders such as unions, universities and the private hospital sector. The preliminary goals include 1) Strengthen leadership, management and governance, 2) Service Delivery Improvement (including quality of care and clinical governance) 3) Build Organizational capability and Innovation, improvement and Learning culture and systems in hospitals 4) Strengthen and improve the responsiveness of support services. These goals are transversal and will also address preparing hospitals for NHI and developing sustainable and resilient hospitals for climate change. More specific outputs have been identified for each of the goals with timelines and allocated responsibilities at local hospital or provincial or national levels. A separate operational implementation process with markers to track progress is envisaged at provincial and national levels. The environment in which hospitals operate is complex, volatile and dynamically changing. This is compounded by an evolving burden of disease where multi-morbidity is becoming increasingly the norm and significant levels of adversity from amongst others, socio-economic distress and consequent ills and climate change, juxtaposed with austerity, shrinking health budgets and significant human resource challenges. Navigating this complexity and providing stewardship in this context, in a well-aligned and cohesive manner, is a leadership imperative. Developing a strategic roadmap for hospitals in this context to provide clear direction

is therefore essential. Given the ongoing emergence of opportunities and threats, the hospital and health sector must be agile, flexible and adaptive to be sufficiently responsive to changes. Building the organizational capability and resilience within hospitals is critical. The process is as, if not more, important than the product to ensure the proposed strategies are context relevant and reality based, the collective wisdom and lessons from the ground have been sufficiently harnessed, and the internal and external stakeholders own the process and product to ensure its implementation. The litmus test is execution, and this requires a robust monitoring and evaluation process to track its operationalization and impact of health outcomes.

Conflicts of interest related to this abstract: None

P-1055

Public-Private Collaboration in Workforce Development: Leveraging partnerships for sustainable talent pipelines.

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Introduction

Healthcare systems worldwide face increasing pressure to develop sustainable workforce solutions. Saudi Arabia's healthcare sector, driven by Saudi Vision 2030, prioritizes workforce expansion and skill development to meet the demands of a growing population. According to the World Economic Forum's Future of Jobs 2025 report, continuous upskilling is critical due to rapid advancements in healthcare technologies and evolving patientcare needs. Public-private partnerships (PPPs) play a crucial role in overcoming these workforce challenges. Reports from the OECD and World Bank highlight that integrating private sector expertise in training programs increase accessibility, workforce readiness, and long-term sustainability. The Health Academy, a government-led initiative under SCFHS, has pioneered a national training model that integrates private training centers to expand healthcare workforce capacity, ensuring a scalable, high-quality training system. This approach aligns with global best practices, promoting sustainability and enhancing the national healthcare ecosystem.

Aim/Objective(s)

1. Assess the effectiveness of PPPs in expanding training capacity and improving healthcare.
2. Measure the impact of these partnerships on addressing workforce shortages, improving service delivery, and enhancing healthcare quality across Saudi Arabia.
3. Evaluate how integrated training systems contribute to the Health Transformation Program 2030 and align with national healthcare priorities.
4. Promote innovation in healthcare training through the integration of advanced technologies, digital platforms, and competency-based learning models.
5. Develop sustainable and scalable talent pipelines that adapt to the evolving healthcare landscape while ensuring long-term workforce stability.
6. Identify leadership imperatives in governance, policy integration, and strategic decision-making to strengthen PPP-driven workforce initiatives.

Methods

A mixed-methods approach combines qualitative and quantitative analysis to assess PPP impact on health care work force development. Key data sources include number of participating

training centers, training enrollment figures, program completion rates, and employment outcomes. Interviews with Health Academy leaders, private training centers, and healthcare employers provide insight into partnership effectiveness. Case studies of successful PPP implementations illustrate best practices and challenges. The study also explores digital learning adoption and simulation-based training models, reflecting OECD and WHO recommendations for modern workforce expansion. A comparative analysis of global PPP models (World Bank reports) informs strategic enhancements in Saudi Arabia's healthcare training landscape.

Results

The Health Academy's public-private partnerships with training centers have significantly expanded training capacity and accessibility across Saudi Arabia. Over the past five years, the number of private training centers delivering Health Academy programs has increased from 130 in 10 cities to 370 in 37 cities, enabling nationwide program execution and addressing regional workforce disparities, particularly in underserved areas. This expansion has led to a 95% reduction in trainee withdrawals, as more trainees are now able to attend training in their preferred locations, ensuring better retention and workforce distribution. 1. number of accredited training centers aligning with national healthcare priorities has increased, strengthening workforce pipelines. With improved program accessibility, over 80% of graduates secure employment within six months, demonstrating the direct workforce impact of PPP-driven training expansion. These partnerships have not only addressed workforce shortages in key healthcare roles but also ensured a continuous supply of skilled professionals, contributing to the sustainability of Saudi Arabia's healthcare system.

Conclusion

The Health Academy's public-private partnership model with training centers has proven to be a key enabler of healthcare workforce expansion in Saudi Arabia. By integrating private sector training centers into a national training framework, the initiative has increased accessibility, reduced trainee withdrawals, and ensured a continuous supply of qualified healthcare professionals. This directly contributes to the improvement of health services by addressing critical workforce shortages and ensuring that healthcare providers are trained to meet national healthcare demands, particularly in underserved areas. This model also represents an innovative approach to workforce development policy, where government leadership and private sector investment are aligned to create sustainable healthcare training pipelines. The initiative has incentivized private training centers to become accredited, enhancing the quality and standardization of training programs. By embedding competency-based education and digital learning tools, this partnership ensures that graduates are job-ready and aligned with evolving healthcare needs. From a policy and practice perspective, the Health Academy's approach serves as a scalable model for other healthcare systems seeking to integrate private sector expertise into national workforce strategies. Future research should explore long-term sustainability mechanisms, including further technology integration and continuous workforce monitoring, to strengthen the resilience of healthcare systems globally.

Conflicts of interest related to this abstract: None

P-1056**Regional project to strengthen biomedical expertise and maintenance in Africa**

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Introduction

As highlighted by The Lancet, in its article dated on Feb 12th 2025, "Biomedical engineers are crucial for effective health-care systems". Worldwide, lots of different actors have identified that a lack of training and promotion of biomedical maintenance. This finding leads to days of downtime in critical medical departments, accentuated and rapid deterioration of equipment, long-term cost overruns long term, which seriously affects the quality of care, compromises medical strategies and finally impacts patient. Several needs are identified, human resources and financial means first, then the awareness of decision-maker actors too. A Second finding is the lack, and even the absence in some countries, as Madagascar, of specialized universities in such expertise, as well from technical side as well on biomedical initial training and maintenance. As medical NGO, we decided to participate and launch this project of reinforcement of competencies in maintenance.

Aim/Objective(s)

This project aims to strengthen and promote maintenance, and more specifically biomedical in West Africa and Madagascar, to ensure patients' safety, reduce numbers of days of unused equipment and improve efficiency of healthcare services. It focuses on building the biomedical management skills, as well as disseminating knowledge through dedicated platforms and tools. At the same time, it is promoting better coordination of biomedical stakeholder networks, both locally and internationally, to develop sustainable and effective management practices and put in place a joint advocacy strategy. This project has also an environmental goal, aiming to advocate and train for a sustainable health, based on the recycling of biomedical equipment and prolonging the useful life of systems and equipment, peer to peer training and support by creating a global network.

Methods

This is a long-term project with a regional vision, focused in the following actions:

- Developing biomedical skills: registering gender-sensitive degree courses and complete the existing ones with specific sessions on different expertise, encourage partnerships between universities and university-hospital and support equipment donations for learning phases.
- Shared resources: development of standard tools, mapping of partner suppliers, waste management and equipment recycling, creation of physical and online resource centres.
- Encouraging networks dynamic: Facilitating meetings between health actors, suppliers and ministries responsible for purchasing equipment and maintaining hospitals.
- Advocacy strategy: Inclusion of patient associations in advocacy strategies, support for structures in lobbying the appropriate entities, presentation of the project at conferences and
- Academic partnerships: Collaboration with universities and teaching hospitals for biomedical technicians and engineers internships and supporting the development of training laboratories by donating equipment.

Results

The expected long term results are focused on

- Optimisation of care for the patients and medical staffs
- Integration of preventive approach for an easier planning

- Reduction of cost, improvement of procurements
- Capacity building for both students and current hired staffs in healthcare structures
- Research with access to database and publications
- Support on local communities
- Creation of across borders network and promoting good practices exchanges

La Chaîne de l'Espoir already realized since 2022 several actions. As first example done within our activities, the creation of a biomedical engineer position in one partner hospital, reduced days of downtime of equipment from more than 40 to less than 10. In 2024, it also combined:

- 3 Seminars have been held during 2024 in Senegal, and 7 are already planned for 2025
- 5 diagnosis of existing hospitals done in Senegal and Benin and others are planned in Ivory Coast, Mali and Madagascar.
- several partners are involved in the project such as universities, organizations, national entities,...
- participating in more than 20 events or congress.

Conclusion

This project responds to a fundamental challenge: guaranteeing the reliability, safety and durability of medical equipment, to improve the quality of care and ensure optimum patient treatment. By strengthening the skills of healthcare players, promoting coordination between stakeholders and developing appropriate tools, together we are building a more efficient and autonomous biomedical ecosystem. Biomedical maintenance is not just a technical issue, but an essential pillar of sustainable and inclusive healthcare. The development of knowledge dissemination tools: resource centre, international dissemination platform, website, seminars, etc. It's pivotal to capitalise on the procedural created and optimize infrastructure management strategies: standard maintenance plan, equipment management and catalogues. Equally necessary to ensure our accountability and produce an advocacy strategy for biomedical and engineering systems maintenance. By gradually empowering medical and technical teams, we enable them to provide extensive care as close as possible to local populations, reducing transfer costs and associated risks for the patients. The commitment, expertise and contributions of all partners will be key to make this project a success. Together we work for an equitable access to quality care and responsible management of medical equipment and engineering systems, through strengthening coordination between stakeholders and networks at both local and international levels.

Conflicts of interest related to this abstract: None

P-1057**Revolutionising Hospital Development: How an Integrated Systems Methodology is Driving Smarter Decisions, Seamless Patient Pathways, and Innovative Healthcare Environments**

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Introduction

The isolated development of new hospitals globally often overlooks broader health system opportunities, leading to significant post-construction challenges. For instance, a 400-bed UK hospital now costs upwards of £500million. Rushed decisions to build without considering the whole health system misses

opportunities for targeted capital investments with equal or better patient outcomes. Frequently, decisions are driven by political pressures and organisational issues, failing to address broader health system needs. This results in fragmented care, siloed clinical services, and care delivery dictated by hospital design. The UK's plan to build 40+ hospitals takes a more strategic approach. Systems thinking has created a holistic framework that identifies optimal areas for hospital infrastructure investment, ensuring efficient capital use and transforming operational delivery within the wider healthcare system. By addressing these known challenges in health infrastructure development, the framework seeks to improve care provision and create a healthier future for all.

Aim/Objective(s)

This project aimed to develop a holistic framework for the UK's hospital building programme, to maximize efficient use of capital and transform operational delivery. Using Systems Thinking and aligning with broader healthcare system needs, it addressed inefficiencies in current practices, which often led to suboptimal patient outcomes.

Key objectives included:

1. Engage with Clinical Experts to clarify the operational and clinical needs of the future and optimise investment decision-making across the healthcare system
2. Define transformational principles for modern hospital design, focusing on patient care, occupant safety, resilience, efficiency, and sustainability
3. Develop a framework of critical requirements to drive the creation of transformational healthcare environments for patients and staff, with seamless and digital optimised pathways across the wider healthcare system.

Methods

Semi-structured interviews, unstructured interviews and workshops with clinical leaders across hospitals, primary care, strategic health networks, opinion leaders, and international hospital presentations. Large-scale multiple industry events, were conducted to assess market readiness for innovation and transformation. Systems Thinking was used to collate information, analyse and map complexity, and understand the adaptive nature of the healthcare system. This approach highlighted the core elements of hospital infrastructure that needed focus, such as key programme objectives for large-scale investment. Systems thinking enabled us to articulate a balanced, holistic and integrated view of the system needed to transform healthcare infrastructure. From this, Systems Engineering was used to define the programme's holistic objectives and deconstruct these into a set of requirements, providing a framework for a transformational hospital and its integration within the broader healthcare system. Ultimately, 110 critical strategic requirements were defined that will drive fundamental change in the way healthcare infrastructure is developed.

Results

Intensive engagement with stakeholders and knowledge-seeking activities were fundamental in defining the core principles of a modern hospital build, addressing the complex demands of healthcare infrastructure projects. This iterative process resulted in the articulation of critical requirements that are equally distributed across the four areas of the "Hospital 2.0" framework:

1. Transformational Patient Care: Driving transformation to provide an excellent, safe and digitally enabled experience for patients, visitors and staff
2. Hospitals for Now and the Future: Hospitals that are adaptable and resilient to change, that transform national standards and leave a sustainable legacy

3. Optimised Healthcare Infrastructure: The right estate, the right layout, enabling people to be in the right place, supported by intelligent digital systems
4. Built efficiently; operated and maintained to last: Using innovation and technology to leverage scale and drive efficiency and value for money and ensure maximum durability for the future.

The integration of these principles and the requirements that underpin each, provides a robust foundation for the New Hospital Programme, positioning it to meet current and future healthcare challenges effectively.

Conclusion

A holistic framework has been developed that provides a transformative approach to healthcare infrastructure, optimising the use of capital, advancing patient care within high-quality environments and enhancing operational delivery within the wider healthcare system. Central to this framework, is an engineered Hospital 2.0 System, driven by objectives and benefits and underpinned by requirements. This has enabled data-informed decision-making, has fostered continuous improvement and curated learnings from across the healthcare system. The Hospital 2.0 System is built on four key principles: delivering transformational patient care through safety and digital enablement; creating adaptable, future-ready hospitals that set national standards and promote sustainability; optimising healthcare structures to ensure the right layout and intelligent systems; and leveraging innovation for efficient construction and long-term durability. Developed with input from patients, staff, and industry experts, this system ensures that hospitals and the care they deliver are not only fit for today, but also resilient and adaptable for tomorrow. By establishing a consistent set of requirements, a new benchmark has been set for healthcare infrastructure globally, enhancing patient outcomes and enabling cost-effective and efficient hospital design, construction, and delivery.

Conflicts of interest related to this abstract: None

P-1058

"São Chico Embraces: Humanization, Diversity and Social Responsibility in the Workplace"

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Introduction

São Chico Embraces was conceived as an initiative of the Technical Assistance Superintendence, together with the Human Resources Management Department, with the purpose of outlining a management and human development strategy that promotes social justice and creates alternatives that would allow for the recovery of the real meaning of working in a welfare institution, proposing a strategic approach model aligned with the Institution's guidelines, so that values and attitudes of respect for human life strengthen a new concept of health care. Having a fair selection process, in which a person who qualifies as LGBTQIAPN+, with a disability, or an immigrant or refugee, has full fair conditions to compete for a position with another person of Brazilian nationality, CIS, heterosexual and without disabilities, becomes a priority for the foundation. Providing fairer opportunities and social inclusion for segregated groups is our main goal in this project.

Aim/Objective(s)

The São Chico Embraces Project is an initiative of the San Francisco of Assis Hospital Foundation (SFAHF) that aims to promote inclusion and diversity in the workplace by hiring migrants and people with disabilities (PWDs). Created with the purpose of expanding humanization and social responsibility actions, the project reinforces the Foundation's commitment to providing opportunities for groups that have historically been excluded from the job market.

Methods

This study consists of an experience report on the implementation of the São Chico Embraces, developed by the SFAHF, located in Belo Horizonte, Minas Gerais, Brazil. Launched in June 2023, the project aims to promote the reception and improvement of user services, with a focus on humanization and comprehensive care. Composed of 13 strategic actions, the project seeks to respond to the emerging needs of the community, in addition to strengthening the institution's internal processes. The report presented here explores the challenges, the solutions adopted, and the impacts already observed to date, highlighting the importance of collaboration between health professionals, managers, and the community for the success of the initiative.

Results

Since the beginning of the project, in addition to promoting various types of collaborative debates to involve managers and advisors, we have achieved the following numbers: in 2023, more than 200 people with disabilities were interviewed; more than 80 immigrants and/or refugees were interviewed; 23 people with disabilities and 17 immigrants and/or refugees were hired; in 2024, 171 interviewees; 29 people with disabilities and 9 immigrants and/or refugees were hired; 22 receptions were carried out, among people with disabilities, immigrants and/or refugees and leaders. SFAHF has established partnerships with the Secretariat of Economic Development and Jesuit Service to Migrants and Refugees in Belo Horizonte and the National Institute of Social Security to attract and capture candidates. The selection process involves screening, psychological evaluations, interviews and analysis of the candidates' skills. Afterwards, the selected candidates undergo medical examinations and submit documents for admission. All new hires take part in basic training, including nursing training for professionals in the field. The institution also promotes policies to combat discrimination by raising awareness among leadership, employees, support groups and intersectoral dynamics. Training for people with disabilities is held every six months and the internal controls committee investigates reports of discrimination.

Conclusion

Since its inception, the project has transformed lives. This diversity has enriched the organizational environment, promoting cultural exchanges and strengthening the sense of community. In addition to foreign employees and people with disabilities, the project also employs professionals over the age of 60, highlighting SFAHF's commitment to combating ageism. Since 2020, the hospital has also welcomed foreign resident doctors, with more than 45 professionals trained by the teaching sector. Under the supervision of the Human Resources Sector, the São Chico Embraces Project is more than an inclusion initiative. It represents a collective effort to promote a welcoming, respectful and enriching environment, aligned with the Foundation's values of caring not only for the health, but also for the dignity and well-being of all. We are convinced that providing health services to the community through a philanthropic hospital institution involves multidisciplinary work understood from a position of openness and social justice, in which no professional activity is complementary, but rather fundamental to excellent

care. Our work produces effects on the subjects, the institution, and society, and these require constant consideration.

Conflicts of interest related to this abstract: None

P-1059

The role of the psychiatric day hospital in a public-private mental health care system

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Introduction

Psychiatric day hospitals, which provide rehabilitation treatment in an outpatient setting, are increasingly recognized as integral components of psychiatric care. These facilities not only facilitate patient recovery but also contribute to the broader mental healthcare system, including public-private healthcare systems.

Aim/Objective(s)

The Keyo Life Training Center (LT Center) was established as part of a public-private mental healthcare network, which includes Keyo Hospital – an 800-bed private psychiatric hospital – alongside publicly funded community mental health centers that primarily manage psychiatric patients in the community and various group homes that offer stable living arrangements for individuals experiencing homelessness or difficulty living independently. This study aims to examine the LT Center's role within this healthcare system, focusing on patient referrals, and to assess its impact using data collected before and after its establishment.

Methods

The LT Center commenced operations in June 2024. In preparation, all affiliated community mental health centers and psychiatric group homes were educated about its objectives and encouraged to refer suitable patients. Referral data from Keyo Hospital were self-reported, and outpatient records from all of 2023, as well as from June 2024 to February 2025, were analyzed. Additionally, hospital discharge data were reviewed, excluding emergency admissions lasting 72 hours or less, as a significant proportion of these cases did not involve serious psychiatric disorders.

Results

Prior to the LT Center's opening, referrals between facilities were predominantly limited to patients requiring urgent hospitalization. However, following its establishment, a notable proportion of referrals involved individuals residing in the community who lacked interpersonal or occupational skills, thereby broadening the range of patients receiving care. This shift was reflected in the referral data. In 2023, of 1,014 new outpatients at Key Hospital, 172 (17.0%) were referred from community mental health centers. Following the launch of the LT Center in June 2024, the referral pattern evolved. Between June 2024 and February 2025, a total of 186 patients were referred to the LT Center, with 147 (79.0%) originating from Keyo Hospital and 22 (11.8%) from community mental health centers and group homes. This suggests an increasing integration of services within the system. Additionally, the substantial number of referrals from Keyo Hospital – representing 13.4% of all discharges – indicates a growing demand for transitional psychiatric services.

Conclusion

Psychiatric day hospitals can serve a critical function within mental healthcare systems by bridging gaps between inpatient facilities and community-based services. The establishment of the LT Center enhanced system-wide integration, addressing

the limitations of both the hospital, which lacked resources for active community management, and the mental health centers, which were unable to provide intensive care. As a result, the LT Center has expanded access to psychiatric rehabilitation and strengthened continuity of care across the public-private healthcare network.

Conflicts of interest related to this abstract: None

P-1060

Transformational Leadership in Caregiving: Driving the Future of Healthcare Organization Description

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Introduction

The FSFB is distinguished by its commitment to the comprehensive development of its members. Based on solid leadership, adapting to the challenges of the health sector is essential to provide the best care for our patients. Therefore, the FSFB implemented leadership-strengthening strategies inspired by our founders' culture and legacy, ranging from personal care and self-development to the generation of societal value. We seek to ensure our collaborators' growth, commitment to the institution, and efficient resource use.

Aim/Objective(s)

Develop leadership to achieve excellent healthcare results and ensure a psychologically safe environment for all employees at the FSFB.

1. Ensure the loyalty of the best human talent in health, anticipating the personnel shortage in the health sector.
2. Provide society with leaders who demonstrate extreme humanism, possess a strong vocation for service, uphold high management standards, and can anticipate and manage the future needs of the health sector.

Methods

The FSFB leadership program include five sessions and two experiences, focusing on change management, knowledge and innovation, integrity and coherence, team and leadership development, strategic results, and service with humanism. In the second version incorporated developing skills in mental health care. The session includes leadership missions to be developed with the team. Since implementation, 250 employees have participated.

Experiences

- Film Forum: Provided a insights to leadership through a film screening.
- Jazz Concert: Through the interpretation of a jazz-orchestra, a music-teacher shared leadership lessons, highlighting importance of culture for achieve the best results.

To develop leaders, several spaces have been created:

- Leadership learning communities: An interactive space to share challenges and find collaborative solutions.
- Culture Leaders: A space for self-development of leadership, strengthening Culture, and offering tools for developing their teams.
- Individual Development Plans: 170 colleagues focused on a blended learning approach: 70–20–10 methodology, supported by coaching and mentoring.

Results

The measurement of psychosocial factors in 2022 and 2024 indicated a positive evaluation of the leadership dimensions assessed (Table 1). Over the past three years, the turnover rate

due to resignation has improved significantly, indicating that leadership interventions have strengthened talent retention (Table 2).

Psychosocial Factors	Year (%)	
	2022	2024
Leadership and social relations	30.8	33.8
Leadership characteristics	27.7	30.3
Feedback	44.2	48
Relationship with collaborators	68.2	69.1

Table 2. Staff rotation due to resignation, 2022 to 2024.

Year	Resignation (%)
2022	16.30
2023	11.91
2024	10.54

Conclusion

Culture and leadership: Leaders now recognize their responsibility to influence the quality of team leadership, representing the Founding Culture and promoting behaviors aligned with service, care, and excellence. A safe, developmental work environment: Leaders have assumed and fostered self-development for themselves and their teams, ensuring social transformations and sustainable results that promote innovation, participation, diversity, and inclusion, respecting the ideas, personalities, and actions. Replicable: This program provides essential actions for developing healthcare personnel. Any organization can adopt it to improve staff care and growth, grounded in the principle that valuing people is achievable and cost-free.

Conflicts of interest related to this abstract: None

P-1061

Transforming Cancer Care: Enhancing Surgical Capacity through the Modular Operation Theatre (OT) Project – A Corporate Social Responsibility (CSR) Initiative.

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Introduction

The rise in cancer cases has led to a higher demand for surgeries at ACTREC, increasing patient wait times. Achieving local tumour control – surgical removal of the primary tumour and regional lymphatic disease – is crucial for cure. To accommodate the rising volume of surgical cases and to reduce wait times, ACTREC decided to increase the infrastructure capacity by constructing a new solid tumour block within the campus. Although infrastructure projects are generally government-funded, there are situations where the sanctioned funds are insufficient to complete projects due to various reasons, including project delays. In India, Corporate Social Responsibility (CSR), a government regulation, mandates companies to allocate at least 2% of their average net profit from the past three years to societal welfare. Companies seek reliable CSR partners capable of executing projects on time and delivering measurable results.

Aim/Objective(s)

The newly constructed solid tumour block had a floor earmarked for an Operation Theatre (OT) complex, which remained incomplete and required an alternate funding source for completion. The management decided to build the OT complex

on this empty floor by tapping the CSR scheme. The target was to create 14 state-of-the-art modular OTs and equip them for various advanced cancer surgeries.

Methods

With a well-defined design and execution plan and a tight timeline, Indian corporate companies were approached. Proposals for support were submitted, and CSR funding was sanctioned in quarter one (Q1) 2020, with the project timeline set from February 2020 to March 2022. From the beginning, key staff, including doctors and nurses, were engaged to ensure that the OT design and equipment met clinical requirements. The equipment procurement process ran parallel to construction, ensuring timely delivery when the site was ready for installation and avoiding delays. Once operational, feedback opportunities and management protocols were implemented to ensure optimum OT utilisation and reduce waitlist times.

Results

The new modular OT complex was completed and commissioned in mid-2022. The annual surgical capacity significantly increased with the addition of 14 new OTs – increasing from 5 to 19. Major surgeries rose from 2,593 in 2021 to 6,442 in 2024, a 148.4% increase. Minor surgeries risen from 1,416 in 2021 to 3,761 in 2024, a 165.6% increase.

Annual Number of Surgeries		
Year	Major	Minor
2021 (Pre-intervention)	2593	1416
2022	2890	1909
2023 (Post-intervention)	4696	2909
2024	6442	3761
% Variation between 2021 to 2024	+148.4%	+165.6%

Beyond increased surgical volumes, patient wait times have reduced dramatically. The waitlist for major surgeries, such as flap procedures, was cut from 2 months to 15 days. Similarly, high-volume head, neck and breast cancer surgeries were performed without wait listing.

Conclusion

Early stakeholder input and concurrent equipment procurement ensured the project's timely completion, yielding results that indicated success. CSR funding proved to be an effective means of addressing healthcare infrastructure gaps, demonstrating how government policies can be successfully leveraged for community benefit – in this case, improving care for cancer patients. This project highlights the importance of collaborative planning, where timely funding and efficient project execution played a crucial role in improving hospital capacity and patient-care.

Conflicts of interest related to this abstract: None

P-1062

Transforming healthcare culture: A strategic approach to conflict management and collaboration

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Introduction

Conflicts within healthcare provider organizations tend to have a systemic nature. They are deeply rooted in organizational structures, processes and dynamics, often arising from underlying issues such as resource shortages, poor communication, unclear roles or responsibilities and the organizational culture itself. Addressing these conflicts requires comprehensive approaches that involve multiple organizational levels to improve communication, clarify roles and responsibilities, redistribute

resources and provide training and support to improve managerial skills of health staff. During 2024, the Change Management and Mediation Unit monitored 74 potential conflict situations and carried out 54 interventions to address interpersonal, intergroup or intragroup conflicts and to support ICS and IAS professionals in communication, conflict and change management. These interventions included mediation processes, restorative processes to address conflicts that had caused some type of harm to professionals, support and mentoring for leaders and professionals, preventive group cohesion dynamics and the preparation of training materials.

Aim/Objective(s)

The Change Management and Mediation Unit was established in December 2023 under the umbrella of the ICS-IAS strategic agreement. Its main objectives are to facilitate and manage transformation processes, support professionals in peacefully resolving conflicts and disputes to promote a collaborative work environment and develop specific collaborative leadership skills based on assertive communication and conflict resolution. Of the 54 interventions throughout 2024, 21 cases (38.9%) were satisfactorily closed by achieving the objective. 18 cases (33.3%) remain open at the end of the year and are expected to evolve throughout 2025. In 7 cases (12.9%), the intervention could not be initiated because the parties involved refused the offer and in 8 cases (14.8%), the intervention was considered not viable. This usually occurred due to the withdrawal of one of the parties or at the mediator's discretion, due to lack of progress or changes in the initial circumstances that prompted the intervention.

Methods

The Change Management Unit records interventions in real-time using the Intervention Register Book database, which collects both analytical and descriptive information for case management and analysis. In 2024, 54 interventions were conducted to address conflicts and support ICS and IAS professionals in communication, conflict management, and change management. Of these interventions, 34 (62.9%) involved managers, 33 (61.1%) involved clinical staff, 12 (22.2%) involved administrative staff, and 4 (7.4%) involved hospital management staff. It is important to note that a single intervention might involve personnel from various professional categories. Regarding participant numbers, 43% of the interventions involved a single participant, 24% involved two participants and 15% included between three and five participants. Group interventions with a more systemic orientation accounted for 18% of the total, involving groups ranging from six to over fifty people.

Results

Of the total 54 cases open or under follow-up as of 31/12/2024, it is noted that 70% of the interventions are reactive in nature, while the remaining 30% are preventive. Reactive interventions, activated once the conflict has erupted, can refer to interpersonal conflict situations between two people (23% of total interventions); intergroup conflict situations affecting several people within the same work team (21%); intragroup conflict situations referring to conflict dynamics between different groups (14%); and finally, 12% of cases refer to situations where at least one party identifies the conflict as an aggression, reporting that the situation has caused psychological. The Success Rate (number of cases closed satisfactorily/viably in relation to the total number of completed interventions) was 72.41% for this first year of intervention (21 cases out of 29). This reflects the acceptance of the service and the effectiveness of the interventions carried out by the Unit.

Conclusion

The project led by the Change Management Unit has visibly transformed organizational culture through a preventive and proactive conflict management initiative. This, coupled with

transformative leadership, underscores a strategic commitment to fostering a collaborative and healthy work environment grounded in open dialogue and mutual respect. Such efforts not only enhance team cohesion and morale but also drive innovation and efficiency, thereby creating a more resilient and adaptable medical organization. The Change Management Unit successfully developed and structured a service portfolio tailored to the needs of healthcare personnel. The service has achieved notable acceptance and has become a benchmark for cross cutting interventions that benefit both strategic-level managers and operational-level technical staff of both ICS and IAS. Effective collaboration with Staff Prevention Services and Human Resources Departments of both ICS and IAS has been pivotal in detecting and managing conflicts, highlighting the importance and quality of coordination with these entities in this first year of implementation. The strategic choice by General Management to implement and support the project, along with its visibility among the board of directors, has significantly contributed to the high acceptance of the Unit's services among professionals and staff.

Conflicts of interest related to this abstract: None

P-1064

Understanding the contribution of incivilities in absenteeism in a long-term care (EMS) in the canton of Geneva.

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Introduction

Healthcare institutions, particularly social care establishments, have to face up to a VUCA-type world (B, 2021) while fulfilling the geriatric care and psychiatric support missions entrusted to them. They face challenges such as the complexity of care provision, a shortage of care staff with specialist knowledge, a high absence rate, and soon. In the long-term care institution, the absence rate is close to 11% (2023) and the cost of additional staffing through the use of temporary workers is significant. which leads to tensions in recruitment and, above all, ensuring continuity of care in the best possible way. The subject of incivility would be an essential key to reducing this rate but there have been very few studies carried out on EMS.

Aim/Objective(s)

The aim of this study is to understand the prevalence of incivilities in a long-term care facility in the canton of Geneva. The questions to be addressed are: How common is incivility among staff working with residents? What are the recommendations for dealing with incivility in situ? The problem is therefore to identify incivilities in order to better understand and manage them. This is why this work will attempt to answer the research question of how to understand the phenomenon of incivility in absenteeism in a long-term care institution.

Methods

A literature review was conducted based on the research question. It was three databases: PubMed and Web of science and literév. The publication year limit was set at 2018. A descriptive design using the nursing incivility scale (NIS) highlights 2 areas of incivility out of 5. A survey-barometer with an open question requests recommendations for managing incivility. The prevalence of incivilities in nursing care will be assessed using the Nursing Incivility Scale (Guidroz et al., 2010). This scale is currently being translated and validated in French according to the Wild's recommendations (Wild et al., 2005). An application for authorisation to use this scale in the French-speaking world has been obtained from one of the authors. This instrument consists of 37 items relating to various aspects of incivility.

Results

43 questionnaires show a prevalence in the areas of general incivility (5 items) and incivility in care (4 items); (25.4% of responses). The executives of the bodies such as the board of directors, management and local executives recommend measures and interventions that fall under primary, secondary and tertiary prevention.

Conclusion

The results of this study show that employees' self-assessment of areas of incivility is relevant, and subjective. Areas of incivility is relevant, albeit subjective. Employees highlight the areas of incivility that mean to them most and this exercise enables them to identify the different types of incivility, even the most trivial. Carrying out this exercise enables them to realise that the company wants their opinion and to see the working environment as a supportive environment made up of instruments and tools for managing incivilities. The use of evaluation tools brings a scientific approach to the profession while at the same time valuing the experience of employees. For this reason, the integration of evaluation of the prevention interventions proposed in the recommendations in a long-term care context long-term care context deserves to be explored in greater depth. The application of these recommendations offers management areas for improvement impacting the working environment with a reduction in incivility and absenteeism.

Conflicts of interest related to this abstract: None

P-1065

When two become one: Rebranding after the merger – or: What makes a strong joint brand

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Introduction

Due to social developments, rehabilitation is becoming increasingly important in the healthcare sector. The merger of Kliniken Valens and Zürcher RehaZentren in 2023 made the clinic group the largest rehabilitation provider in Switzerland. We see it as our mission to ensure a long-term security of rehabilitation care for patients. However, ensuring high-quality care requires not only appropriate facilities and structures, but also qualified and well-educated professionals. It is crucial that employees are satisfied, enjoy doing their job and identify with their employer. This increases the self-efficacy and general resilience of employees and makes a significant contribution to ensuring that patients are also happy and, in the best case, achieve better treatment results. From the outset of the merger, the aim was to take the best of both worlds and create a new, shared culture that is reflected in a strong brand.

Aim/Objective(s)

A merger always means change. Regarding the new brand identity, it is important not to lose sight of the goal of a sustainable brand strategy. After all, as the largest rehabilitation provider, it is our task and our desire to create something that has value, reflects our promise of quality, and represents a culture-forming factor. In addition, the brand must help us to be perceived as who and what we are at the many levels of encounter with our stakeholders- from the patients and their relatives to the employees and potential employees to referring physicians and external partners. As everyone is an important part of our culture, it was clear from the beginning to make the rebranding process transparent and involve all stakeholders. We wanted to develop something new together. A brand that is characterized by stability, consistency and longevity and embodies our new, shared culture.

Methods

Supported by the agency Scholtysik, we started 2024 with the analysis phase. Using a multi-modal mixed-methods approach consisting of quantitative surveys and qualitative expert interviews, the Kliniken Valens and the Zürcher RehaZentren were scrutinized equally in terms of brand awareness and image.

- Quantitative online survey of the population (conducted by inter vista): target group representative according to age and gender, disproportionately proportioned according to cantons in which the clinic group has service contracts, weighted to representative proportions; sample size: $n = 1007$; period: February 2024
- Quantitative telephone survey of referring physicians (conducted by Rotthaus): sample size: $n = 52$ (17 from “social services”, 35 from “senior physicians”); period: February–May 2024
- Qualitative expert interviews (conducted by Scholtysik): Individual, semi-structured input interviews via video call with internal ($n = 22$) and external ($n = 13$) stakeholders; period: February–April 2024

All responses were subsequently summarized and brought together into an overall picture using a meta-matrix approach.

Results

The overall picture of the analysis revealed, among other things, that the “Kliniken Valens” brand is established and better known “in the scene” than the “Zürcher RehaZentren” brand. It has a very good reputation, stands for research and innovation, and has a high brand value. Acceptance by the majority of the workforce is assured. The obvious reference to the Latin “valere” (meaning “to be healthy”) also speaks in its favour. And it would at least enable rolling implementation. In summary, it can be said that the vast majority – including those of the external stakeholders surveyed – were clearly in favour of “Kliniken Valens” or “Valens”. And not for the continuation of the “Zürcher RehaZentren” brand. With the findings from the surveys of the population and referring physicians as well as the input interviews with internal and external stakeholders of the merger partners, we came to the following conclusion after a thorough examination of the suitability criteria of the potential brand name as well as an in-depth linguistic and legal examination as part of internal workshops: there is only one brand – an umbrella brand that is used in a unique position. Without any addition, simply: Valens. (Go-Live: October 2025)

Conclusion

The Valens Clinic Group is a full-service provider in rehabilitation, offers holistic treatments – interdisciplinary, individualized and highly intensive – and is also a leader in research, innovation, and education. The new brand reflects this value proposition together with our brand personality – well-founded, warm, and dynamic. This is supported by our guiding principle: Moving forward together, step by step. This applies not only internally, but also regarding the patients we accompany on their recovery journey. It also means that we are committed to ensuring the long-term security of rehabilitation care. We develop innovative rehabilitation concepts and offer training and further education so that patients receive the best possible and best available treatment. A brand is only as good as its foundation. And at the Valens Clinic Group, this is built on a strong culture, which in turn is supported by our employees, our patients and partners, organizational conditions, and financial security. Thanks to our passion for rehabilitation, our innovative strength, and our ability to network, we are a leading rehabilitation provider with an international reputation. We promote the sustainable recovery, independence, and health literacy of our patients, thereby improving their quality of life and active participation in social life.

Conflicts of interest related to this abstract: None

P-1066

A National CPD Framework: A Catalyst for Workforce Engagement and Retention in Healthcare

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Introduction

Continuing Professional Development (CPD) in Saudi Arabia has evolved significantly, especially in the healthcare sector. Given the rapid pace of technological advancements and evolving industry standards, it is increasingly essential for professionals to continually update their knowledge, skills and attitude. Despite efforts to integrate CPD into the healthcare system, several challenges have limited its effectiveness. Challenges such as inconsistent program quality, high costs, limited employer support, and the perception of CPD as a requirement rather than a growth opportunity make participation challenging. Additionally, regulatory inconsistencies, lack of incentives, and misalignment with market need further reduce engagement and impact. These challenges emphasize the need for a more structured approach that ensures a standardized and reliable CPD framework, that fosters accessibility, aligns with national healthcare priorities, and supports continuous professional growth to improve both workforce competency and patient outcomes.

Aim/Objective(s)

This study aims to develop a structured, nationally coordinated CPD framework for the Saudi healthcare sector. It will address key barriers to CPD and propose a solution that improves accessibility, ensures relevance, and promote sustainability. The framework will introduce unified CPD terminologies, defined learner levels, establish diverse learning approaches, and a new CPD credit system to enhance participation aligning professional development with the national healthcare goals. Ultimately, it seeks to foster a culture of lifelong learning and position CPD as a strategic means for professional growth.

Methods

The CPD framework was developed through a collaborative approach involving key stakeholders, including multidisciplinary healthcare professionals (HCPs), 25 subject matter experts, and representatives from diverse healthcare and educational institutions. A combination of quantitative and qualitative methods, including surveys, interviews, committee discussions, and experts focus groups, was employed to gather broad insights. This approach provided a comprehensive understanding of the current state of professional development, identifying gaps and areas for improvement. Data collection, incorporating both primary and secondary sources, along with feedback mechanisms and benchmarking against global best practices, ensured the framework's alignment with established professional standards.

Results

The survey was distributed to all registered HCPs in the kingdom, with more than 500 responses received from a representative sample reflecting a wide range of healthcare specialties, professional ranks and gender. Majority of HCPs viewed CPD as integral to lifelong learning (91%), with 90% HCPs attending CPD activities to enhance their knowledge and skills, and 83% attending to earn CPD credits. Reported challenges in

accessing CPD included funding limitations, time constraints, inadequate employer support, and a lack of local opportunities. 55% of HCPs support increasing CPD requirements, and 61% consistently obtain more CPD hours than required. The Medicine and Surgery professional group resulted in the highest average of CPD hours, with 44 hours yearly over the past three years. While most professionals recognize various learning methods, they often find it challenging to clearly define or differentiate between them. The intended CPD framework seeks to standardize CPD terminology, define learner levels from novice to expert, outline diverse learning modalities and delivery methods, and establish a new credit system with CPD requirements tailored to each profession.

Conclusion

The framework includes internationally acknowledged components, such as standards and requirements, found in several CPD frameworks. Elements like promoting reflective practice, adopting credit-based systems, and requiring personal development plans, that are considered common in frameworks from the UK, Canada, South Africa, and Tanzania, have been integrated into this framework and its implementation plan. Compared to others, Saudi Arabia's CPD requirements are relatively nascent. Additionally, while several countries mandate diverse learning methods to be included in credit requirements, the current system in KSA lacks this approach, which the proposed framework aims to address. Adoption and implementation of this CPD framework is expected to significantly enhance professional competency, support career growth, and strengthen the healthcare system's resilience. To ensure long-term success, ongoing monitoring, regular reviews, technology investments, and CPD recognition practices should be prioritized.

Conflicts of interest related to this abstract: None

P-1067

Risk Factors of Employee Turnover Intention in a Tertiary Hospital in Korea

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Introduction

Employee turnover in hospitals increases operational costs and decreases the quality of patient care. In particular, turnover intention is highly likely to lead to the actual turnover of specialized personnel, which can disrupt the continuity of care for patients and impose additional recruitment and training costs on hospitals. Despite its significant impact, studies examining the factors of turnover intention among employees in tertiary hospitals remain limited. Understanding these factors is essential for developing effective retention strategies that ensure workforce stability and maintain high-quality of healthcare services.

Aim/Objective(s)

This study aimed to evaluate effect of organizational culture factors – including organizational direction, organizational system, work process, leadership competency, job characteristics, and employee competency – on turnover intention in employees at a tertiary hospital.

Methods

This cross-sectional study analyzed data from an organizational culture survey conducted in December 2024 among 1,914 employees in a tertiary hospital in Seoul, Korea. The survey measured six main dimensions using five-point Likert scales: Organizational Direction (understanding and practicing of vision and core value), Organizational System (structural system, HR system, functional competencies), Work Process (commu-

nication, problem-solving, decision-making), Leadership Competency (executive and managerial leadership), Job Characteristics (meaningfulness, autonomy and responsibility), and Employee Competency (work efficiency, ownership). The turnover intention was categorized into two groups based on a 5-point Likert scale: respondents who answered "Strongly Agree" or "Agree" were classified as having turnover intention, while those who answered "Neutral," "Disagree," or "Strongly Disagree" were classified as not having turnover intention. Multivariate logistic regression was conducted to find the risk factors for turnover intention.

Results

Among 1,914 respondents, 465 employees (24.3%) had turnover intention. The organizational system was identified as key risk factor of turnover intention (OR, 0.576; 95% CI, 0.439–0.757; $p < 0.001$). Additionally, leadership competency (OR, 0.756; 95% CI, 0.619–0.923; $p < 0.001$) and organizational direction (OR, 0.777; 95% CI, 0.609–0.990; $p < 0.05$) were significantly associated with turnover intention. However, work process, job characteristics, and employee competency were not significantly associated with turnover intention.

Conclusion

This study identifies key components of organizational culture influencing employee turnover intention in the tertiary hospital setting. These results suggest the importance of enhancing organizational systems, effective leadership, and clearly defined organizational vision and core values, as strategies to retain hospital staff. The important role of organizational systems highlights the necessity for hospitals to prioritize HR strategies, including fair performance evaluations, effective staffing, and competitive compensation and benefit system. Additionally, hospitals should regularly invest to develop leadership program that enhance communication of manager. It is also crucial for decreasing turnover intention in a tertiary hospital setting to clearly define the organizational direction to convey the hospital's vision and core values. Our findings may provide executives of hospital with a basis for retention strategy. Future research should investigate turnover intention considering personnel data, such as occupation and years of experience, to implement specific strategies for the targeted group.

Conflicts of interest related to this abstract: None

P-1068

Exploring Risk Perception, Mental Health, Mental Fatigue, Stigma, and Quality of Life among UAE Healthcare Workers during the COVID-19 Pandemic

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Introduction

Mental health disorders lead to a poor quality of life (QoL), mental fatigue, and stigmatization. Health professionals experienced greater levels of mental fatigue, anxiety, and depression during COVID-19. Stigmatization, related to caring for patients with infection, contributed to uncertainty, stereotypes, and discrimination. This stigma can result in healthcare workers fear-

ing virus contraction and feeling guilty about potentially spreading it to their families, ultimately affecting the quality of care provided. Stigmatization leads to reluctance in seeking healthcare, hampered pandemic control, and increased stress, anxiety, and burnout among healthcare professionals. Despite the existing research on the mental and psychological impacts of COVID-19 in the UAE, there remains a significant gap in understanding the comprehensive effects on mental health, mental fatigue, social stigma, and quality of life (QoL) among healthcare workers during the pandemic.

Aim/Objective(s)

This study aimed to address the gap in understanding the comprehensive effects on mental health, mental fatigue, social stigma, and quality of life (QoL) among healthcare workers during the pandemic by providing a detailed analysis of these factors within the unique healthcare environment of the UAE.

Methods

This cross-sectional study was conducted in the UAE. Participants were recruited using cluster and purposive sampling techniques from various healthcare settings. The study received ethical approval from multiple research ethics committees: Higher Colleges of Technology, Ministry of Health and Prevention, SEHA Research Ethics Committee-SEHA Research Oversight Committee, and SSMC. A pilot phase tested the reliability and validity of the study instruments on 50 healthcare workers. The COVID-19 Pandemic Mental Health Questionnaire (CoPaQ), Mental Fatigue Scale (MFS), Social Discrimination Scale (SDS), and WHO Quality of Life Questionnaire-Brief (WHOQOL-BREF) were used. A priori criterion of Cronbach's $\alpha \geq 0.70$ was used for adequate evidence of each scale and subscales reliability [37]. The pilot confirmed satisfactory internal consistency reliability (Cronbach's $\alpha \geq 0.70$). The data collection phase began on 31 March and ended on 10 June 2022. Out of 1443 invitations, 1383 participants completed the survey, forming the final sample.

Results

The results indicated significant mental health impacts, with high average scores for post-traumatic stress disorder (PTSD)

(9.37 ± 6.74) and positive coping by inner strengths (17.63 ± 5.72). Mental fatigue was prevalent (8.15 ± 8.62), and stigma of social discrimination scored notably (23.83 ± 7.46). Quality of life was the highest in the social domain (65.38 ± 24.58). Significant correlations were observed between mental health subscales, mental fatigue, and quality of life domains. These findings highlight the critical need for targeted mental health support programs, improved social support networks, and personalized interventions to mitigate the mental health challenges faced by healthcare workers. Healthcare organizations can guarantee a resilient workforce that can handle future health crises by giving mental health resources and support systems top priority.

Conclusion

This national study sheds light on the significant mental health challenges faced by healthcare workers during the COVID-19 pandemic, focusing on mental health, mental fatigue, quality of life and social discrimination. Despite showing resilience through positive coping strategies, healthcare workers are still prone to experiencing high levels of stress, anxiety, and other mental health and mental fatigue issues. The study stresses the importance of addressing these challenges through targeted support programs, improved social support networks, and personalized interventions tailored to the unique needs of different groups within the healthcare workforce. By prioritizing mental health resources and support systems, healthcare organizations can better care for their employees, ensuring their well-being and ability to effectively handle current and future health emergencies.

Conflicts of interest related to this abstract: None

TRACK 2: CLINICAL MODELS ENHANCING QUALITY AND SAFETY

P-2001

Comprehensive route for cancer patients diagnosed with breast cancer

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Introduction

Breast cancer is a heterogeneous disease, which means that it can present different types and degrees of aggressiveness, this associated with the increase in its prevalence and aggressiveness drives us to create and strengthen a comprehensive care route that allows us to offer personalized and timely treatment, which is adapted to the specific characteristics of each patient. Which may include surgery, radiotherapy, chemotherapy or targeted therapies. This approach reduces the risks of unnecessary treatments and ensures that the patient receives the best available option and thus guarantees timely diagnosis and management in these patients

Aim/Objective(s)

Within the comprehensive care route of the patient with suspected and confirmed diagnosis of breast cancer, it is aimed at the management and comprehensive care from screening, diagnosis, assignment of first-time consultation with the relevant

specialty, management of orders generated in the consultation for diagnostic confirmation or to manage the patient with confirmed cancer, follow-up and articulation of the patient in consultation with the different specialties to guarantee multidisciplinary management, including the approach to the family

Methods

The admission of the patient with a presumptive or confirmed diagnosis is carried out, enters the route for management, confirm or rule out the diagnosis; Monitoring and management of the ordering, scheduling for the start of treatment and finally discharge from the program according to medical criteria is carried out. The integral route guarantees the patient's ability to navigate, achieving accompaniment, improving adherence, guaranteeing continuous treatment, achieving the start of treatment in the shortest possible time, and reducing access barriers that arise during the process.

Results

- We managed to improve adherence to treatment in the established times, avoiding administrative barriers.
- Transversal communication with the insurer generating access routes and other providers for the comprehensive management and treatment of patients.

- Articulation with the oncology support program providing comprehensive support with the specialties of nursing, psychology, social work, nutrition and palliative care
- Articulation with the central HUB for the development of guidelines, clinical pathways in conjunction with the Oncology Nucleus of Excellence (ONE)
- Clínica Sebastián de Belalcázar is currently recognized as the benchmark for cancer in the southwest of the country, in the Implementation of the navigation model for user support
- Ensure that 90% of the population targeted by the comprehensive pathway has a timely start of treatment within the first 30 days of diagnosis

Conclusion

Ensuring an integrated health pathway for suspected or confirmed diagnosed cancer patients can significantly improve the health system by optimizing care, reducing costs, and improving clinical outcomes. Guaranteeing the following crucial points:

1. Improves Coordination and Continuity of Care and Treatment
2. Guarantee opportunity in diagnosis and initiation of treatment
3. Allows early detection of cancer, which improves treatment success rates and improves quality and life expectancy
4. Facilitate communication in an interdisciplinary group for comprehensive patient management and approach
5. Standardizes treatment and handling processes
6. It allows the health system to optimize resources and reduce costs
7. Allows efficient use of diagnostic and technological aids for diagnosis and treatment
8. Decrease in unnecessary hospitalizations
9. Comprehensive accompaniment of the patient and family, from diagnosis and possible fatal outcome.

Conflicts of interest related to this abstract: NONE

P-2002

A comprehensive Occupational Therapy Pilot program to enhance Peritoneal Dialysis techniques and outcomes

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Introduction

End-stage kidney disease (ESKD) is a severe medical condition where the kidneys' function permanently declines, often necessitates kidney replacement therapies (KRT) such as peritoneal dialysis (PD) as a life-sustaining treatment. However, patients with limitations in hand function, vision, and cognition may exhibit borderline performance in PD, increasing the risks of developing peritonitis. This complication not only leads to significant morbidity, mortality, and hospitalization rates but also imposes substantial medical costs. These challenges also frequently result in greater dependence on caregivers or institutional care. However, the existing care model has a notable service gap in providing timely assessments and rehabilitation to optimize patient's functional capability and enhance their safety and independence in PD.

Aim/Objective(s)

To bridge the gap, a pilot program focusing on comprehensive assessments and individualized interventions was introduced

at Caritas Medical Centre, Hong Kong. It aimed to enhance patient's PD techniques, reduce complications such as peritonitis, lower healthcare costs, and promote patient autonomy.

Methods

From April 2023 to March 2024, Chinese patients aged ≥ 18 years who were diagnosed with ESKD, and planned to perform PD by themselves, were referred to the Occupational Therapy Department for pre-dialysis assessment by Nephrology service medical officers. In the pilot program, structured pre-dialysis assessments were conducted to identify core competencies that affect future PD performance and increase peritonitis risk. This enabled renal doctors and nurses to grasp a deep understanding of patients' capabilities, identify key areas for intensive training, and provide patients and medical team with global information to make informed decisions on KRT. The identified problems were addressed through a personalized intervention program designed to enhance PD technique. Interventions included rehabilitation training targeted at peritonitis risk factors and prescription of PD assistive devices to compensate for their functional limitations. Additionally, On-site training supported patients in generalizing learnt skills into real life home environment.

Results

Eighty-two patients completed the pre-dialysis assessment and twenty-five of them were identified with borderline PD performance due to challenges in at least one of the core competencies required for safe and independent PD. Of these, twenty patients underwent targeted interventions and achieved significant improvements in both disinfection ($Z = -2.994$, $p = .003$) and dialysis procedures ($Z = -2.959$, $p = .003$). Notably, ninety percent of them successfully converted their treatment plan from helper-assisted PD to self-managed PD. Within the first year of self-PD, crude peritonitis rates differed significantly between trained and untrained patients: peritonitis occurred in 35% of trained patients compared to 100% among who declined the intervention program, despite comparable baseline demographics. This marked reduction in peritonitis and PD technique failure was attributable to our interventions. An extrapolating cost-saving analyses suggested an annual savings of over HK\$1 million associated with peritonitis-related hospitalizations and treatment. Moreover, four patients who failed the initial assessment chose to opt out of PD, enabling them to make informed decisions and avoid unnecessary operations, which further contributed to reduced medical costs.

Conclusion

Our proof-of-concept program demonstrated that pre-dialysis assessments and targeted interventions led by Occupational Therapists significantly promoted patients' independence, enhanced PD performance, and reduced peritonitis risks. It also contributed to substantial cost savings for the hospital by decreasing peritonitis-related hospitalizations and avoiding unnecessary procedures. This pilot program highlights the value of integrating Occupational Therapy into pre-dialysis care to improve the quality and safety of PD. These findings provide a compelling rationale for service development to support routine pre-dialysis referrals to Occupational Therapists. To maximize the program's impact, incorporating regular peritonitis risk reviews into this service model should also be considered, as patients may experience a gradual decline in technique adherence or skill proficiency over time. Sustaining long-term patient support would reinforce skill retention and ensure the long-term success of the program. Scaling this model could further strengthen multidisciplinary collaboration in nephrology care and contribute to better outcomes for patients with ESKD.

Conflicts of interest related to this abstract: none

P-2003

A patient centered, value-based and data-driven pathway in cardiac surgical care

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Introduction

Coronary artery disease (CAD) and valvular heart disease (VHD) represent the leading causes of mortality worldwide and are significant contributors to symptoms and functional disability. As an accredited heart center, our objective is to deliver optimal, personalized care to patients and their families. This objective includes transitioning high-impact interventions toward fast-track care models and facilitating rapid recovery through the integration of medical innovations and advanced technologies. This approach is grounded in the principles of value-based healthcare [1] and data-driven clinical pathways, aiming to optimize patient outcomes relative to resource utilization. Furthermore, the implementation of novel technologies enhances data collection and provides deeper insights during the pre-treatment phase and throughout patient follow-up, thereby supporting more informed clinical decision-making and improved patient care.

Aim/Objective(s)

The primary objective of this project is to standardize and optimize the processes across the pre-treatment, treatment, and follow-up phases of cardiac surgical patients and thereby enhancing the overall patient journey. The project aims to foster improved multidisciplinary collaboration and achieve superior patient-reported outcomes and experiences. These include enhanced quality of recovery and life, reduced costs across the pre-treatment, treatment, and follow-up stages, better-informed and educated patients, quicker interventions during the follow-up process, and increased patient engagement and involvement, as well as greater collaboration among all healthcare providers.

Methods

The implementation of minimally invasive cardiac surgery techniques and Enhanced Recovery After Surgery (ERAS) protocols – perioperative multimodal pain management and regional anesthesia – has significantly improved patient recovery and clinical outcomes. Our hospital successfully introduced these innovations by establishing a standardized patient pathway and defining roles for multidisciplinary teams, including cardiothoracic surgeons, dietitians, physiotherapists, nurses, anesthesiologists, and psychologists. This approach enhanced collaboration and improved the overall patient experience. Quality of Recovery (QoR) and Patient-Reported Experience Measure (PREM) questionnaires were conducted preoperatively and at multiple postoperative intervals. Monitoring these outcomes allowed continuous refinement of the care pathway, resulting in better recovery, quicker interventions, and greater patient and healthcare provider engagement. Additionally, a pilot project (subpopulation of 20 patients) using a wearable device (Cardiowatch by Medtronic) enabled continuous monitoring of vital signs before, during, and after surgery. This real-time data supported medication adjustments and rapid responses to potential complications, further improving patient outcomes.

Results

Of the 205 patients who completed the preoperative questionnaires, 123 participated in the postoperative assessment (test group), with 20 included in the wearable pilot project. QoR scores showed a positive progression between postoperative day 3 and day 7. The proportion of patients reporting good to excellent recovery increased from 25% on day 3 to 56% on day 7, while reports of poor recovery decreased from 12.4% to 6%, indicating overall positive recovery outcomes. Mortality percentages were 0% in both groups. Patients' rehospitalisation within 30d occurred in 8% of the test group and in 40% of the control group. Patient feedback reflected strong collaboration and organization among care stakeholders, with 95.4% agreeing. Additionally, 60% felt they received sufficient information about their treatment, supporting perceptions of transparency and provider expertise (97.7% agreement). Areas identified for improvement included inadequate information about the recovery trajectory, rapid hospital discharge without proper home follow-up, and unclear medication policies. The wearable pilot project effectively addressed these concerns. Among participants, 65% acknowledged the added value of continuous monitoring via the wearable device, which strengthened their connection to the hospital. This monitoring provided a sense of security regarding follow-up care (50%) and supported medication titration during postoperative recovery.

Conclusion

The integration of minimally invasive cardiac surgery techniques, Enhanced Recovery After Surgery protocols, and wearable technology has significantly improved patient outcomes in the treatment of coronary artery disease and valvular heart disease. Standardized patient pathways and clear multidisciplinary collaboration enhanced recovery, and improved patient engagement. Quality of Recovery scores showed notable improvement between postoperative days 3 and 7, reflecting faster and better recovery. The pilot study with wearable devices effectively addressed key areas for improvement, such as follow-up care and medication management. Continuous monitoring provided patients with a greater sense of security and enabled timely medical interventions. Positive patient feedback confirmed the value of these innovations in enhancing care quality and patient experience. Overall, the combination of medical innovations and data-driven care pathways supports the delivery of efficient, patient-centered care. Ongoing efforts to improve communication about recovery, strengthen home follow-up care, and clarify medication policies will further enhance outcomes. This project demonstrates the potential of integrating advanced technologies into cardiac care to optimize patient recovery.

Conflicts of interest related to this abstract: "None"

P-2004

A Process Improvement Study to Prevent Wrong-Site Peripheral Nerve Blocks

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Introduction

In February 2024, a significant close call was noted during a nerve block procedure where no marking was found while spraying antiseptic during an orthopedic procedure. This incident highlighted critical vulnerabilities in our safety protocols, particularly the absence of formal guidelines or structured time-out procedures before performing nerve blocks. These vulnerabilities pose serious risks, including ineffective pain management, increased surgical risks, and potential legal consequences.

This close call, along with other identified issues such as ambiguous site markings and incorrect site transfer due to patient repositioning, triggered the immediate initiation of this project. These incidents, classified as 'Never Events,' pose serious risks, including ineffective pain management, increased surgical risks, and potential legal consequences. Wrong-site peripheral nerve blocks are considered as "never events". The estimated incidence of a wrong-site block may be as frequent as 7.5 per 10,000 procedures.

Aim/Objective(s)

This study aims to eliminate wrong-site peripheral nerve blocks by implementing the "Stop Before You Block" (SBYB) protocol at SLMC-GC's Operating Room (OR) Main Complex. The goal is to achieve 100% compliance with the SBYB protocol and zero wrong-site nerve blocks by August 2024, following close-call incidents in February and March 2024.

Metrics for Success

Success will be measured by:

- 100% compliance with the SBYB protocol in orthopedic and spine procedures
- Zero wrong-site peripheral nerve blocks
- Proper site marking visibility throughout the procedure
- Reduction in close calls or misidentified surgical sites

To track progress, monthly audits will be conducted, including:

- Chart reviews for compliance
- Incident tracking of any new close calls
- Real-time feedback for continuous improvement

Methods

The project follows a structured, phased approach from February to August 2024, focusing on:

- Standardizing site verification before regional anesthesia
- Enhancing communication and teamwork among the regional anesthesia team, surgeons, and circulating nurses
- Integrating the SBYB protocol into existing safety workflows

The protocol will be fully implemented hospital-wide by March 2025, ensuring:

- Pre-block verification pause before needle insertion
- Correct site marking visibility throughout the procedure
- Final team confirmation before performing the nerve block

A Root Cause Analysis (RCA) identified several factors contributing to wrong-site nerve block risks:

- Lack of Standardized Guidelines – No formal site verification protocols before regional anesthesia
- Ambiguous Marking – Poorly visible, inconsistent, or misinterpreted surgical site markings
- Communication Gaps – Assumptions about the correct site due to miscommunication
- Environmental Challenges – Factors like patient repositioning and multiple fractures requiring different blocks

Results

Quantifiable Outcomes

Pre-SBYB Implementation (Close Call Rate per 1000 Procedures):

- February 2024: 4.92
- March 2024: 2.74

Post-SBYB Implementation (April – August 2024):

- 0% incidence of wrong-site peripheral nerve blocks
- 100% compliance rate with the SBYB protocol

The drastic reduction from 4.92 to 0% demonstrates the effectiveness of the protocol in preventing errors and enhancing patient safety.

Institutional Benefits include:

Non-Financial Benefits

- Improved Patient Safety – Reducing the risk of wrong-site blocks and LAST
- Enhanced Quality of Care – Standardized practices improve outcomes and patient experience
- Process Efficiency – Streamlined workflows improve surgical safety and coordination
- Risk Reduction & Liability Mitigation – Minimizes exposure to lawsuits and sentinel events
- Increased Patient Trust & Satisfaction – Strengthens hospital credibility and patient confidence
- Improved Team Collaboration – Enhances communication and coordination across surgical teams

Financial Benefits

- Reduction in Preventable Costs – Avoidance of wrong-site block corrective procedures
- Decreased Legal & Liability Expenses – Lower risk of malpractice claims
- Shorter Hospital Stays – Reduced length of stay leads to lower hospitalization costs
- Enhanced Patient Retention – Improved patient trust leads to higher referrals and hospital preference

Conclusion

Potential Cost Savings and Institutional Impact

The SBYB protocol has significantly reduced the risk of wrong-site nerve blocks, leading to substantial cost savings and improved patient safety. Preventing such errors minimizes unnecessary procedures, extended hospital stays, and potential legal liabilities.

1. Estimated Cost of a Wrong-Site Block

In a high-quality tertiary care facility like SLMC-GC, the financial burden of a wrong-site block can be substantial due to the need for advanced resources, specialized care, and corrective procedures:

- Medical Costs: Expenses for corrective procedures, prolonged hospital stays, and additional treatments can range from ₱2 million to ₱5 million, depending on the severity of the incident and patient complexity.
- Legal and Reputational Costs: Sentinel events such as wrong-site procedures may lead to lawsuits, regulatory scrutiny, and reputational damage, significantly impacting the institution.

2. Impact of Preventing Local Anesthetic Systemic Toxicity (LAST)

Preventing wrong-site or improperly administered nerve blocks also reduces the risk of LAST, a potentially fatal complication that requires intensive care interventions. Benefits of SBYB include savings from medical costs and elimination of complications from LAST.

Conflicts of interest related to this abstract: None

P-2005

A Sequential Nursing Competency Building and Privileging RoadMap: To build future Nursing Leaders and enhance Care Quality

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Introduction

In this fast-changing healthcare landscape of the 21st century, nursing practice is confronted by countless challenges. Maintaining high standards of nursing performance, is an arduous task for the healthcare sector of any country.

Like most healthcare organizations in India, we frequently observe variability in the quality of nursing education, a high turnover rate and shortage of skilled nursing staff. Additionally, we are seeing a rise in complex patients with rapidly evolving needs, emphasizing that all nurses need to continuously enhance their decision making, communication, and knowledge of advanced technologies & practices. Given this scenario it is vital that healthcare organizations prioritize ongoing competency training and professional development opportunities for nurses. This will reduce nursing staff burnout & stress and improve autonomy, recognition and career growth for the nurses. Overall, helping us build a larger pool of competent motivated nurses, committed to providing safe, high-quality care in different settings.

Aim/Objective(s)

The program aims to enhance care quality and minimize harm to patients and providers with system effectiveness and individual performance.

- The goal is to ensure that all nurses, regardless of age, past education or experience, possess the necessary competence to provide safe, high-quality care and achieve optimal patient outcomes.
- The competency training roadmap will offer an inclusive learning environment, allowing nurses to acquire new skills, and improve job satisfaction.
- Additionally, objectively identifying the high performing nurses and providing leadership development programs to advance their careers will help organizations attract and retain skilled nurses and develop future nursing leaders.
- The ongoing standardized assessments will improve nursing ownership and adherence to care protocols and guidelines, reducing errors related to nursing competency gaps.
- The program will also enable objective privileging for the nurses by mapping nurse competencies to patient acuity, ensuring consistent care quality across all hospital areas.

Methods

A needs assessment was conducted using surveys, interviews, nursing sensitive data & incident analysis to identify knowledge and skill gaps in nursing staff. Data analysis focused on understanding demographics and learning preferences. Stratified random sampling was employed for gap analysis data collection. A multidisciplinary committee, including nurse leaders, doctors, educators and quality team members, reviewed the baseline data to define learning objectives, and develop learning modules & assessments. The modules covered patient risk assessment to prioritize individualized interventions, advanced clinical procedures, safety practices and emergency protocols. The training plan combines theoretical instruction, simulation-based learning and hands-on clinical practice to cater to various learning styles. The structured competency enhancement and privileging pathway was created by defining care domains and matching appropriate nursing competencies, through comprehensive risk assessments. Nurses progress through successive levels of competence, receiving privileges as they meet competency benchmarks, ensuring continuous professional development and adherence to professional standards.

Results

The program began with a pilot project at our JCI Accredited hospital, which offers over 40 medical specialties. Currently, 48 new nurses from diverse educational background, have completed induction, basic competency and advance 1 preceptorship training. Providing targeted support and focused retraining as needed, enabled all nurses to achieve the set target scores in the post training assessments. This has helped us successfully bridge the competency gaps for all nurses, ensuring their commitment and motivation to providing quality care.

The competency and privileging roadmap has helped leaders objectively advance 100% of the nurses to care for both general ward acuity (1-4) and critical care acuity (1-2) patients in less than two months of their joining. This progression has ensured high nursing standards across various care areas while fostering professional growth among nurses. Post implementation analysis of nursing incident data reveals that most incidents were due to non-modifiable patient factors, rather than gaps in nursing care plans. This reflects an improvement in risk assessment and treatment planning by nurses.

Additionally, surveillance audit findings show significant improvement in nursing adherence to established protocols and documentation, further demonstrating the success of the program and its impact on patient care quality.

Conclusion

As healthcare evolves and become increasingly complex, the need for highly competent nurses continues to grow. Since competence is developed progressively over time, it's crucial for all healthcare organizations to foster a culture of continuous learning and improvement. Nurses should be encouraged to expand their knowledge and skills to provide safe, high-quality care to all patients. Creating a supportive work environment with diverse professional development opportunities helps reduce job burnout and boosts nurse retention. Further, providing ongoing opportunities for nurses to remain updated with latest evidence-based practices will protect nurses' credibility, elevate the overall nursing standard of care and enhance patient outcomes. A structured nursing competency building and privileging roadmap encourages active, responsible learning, ensuring that all nurses-regardless of their background-can reliably develop and demonstrate competencies. The integration of standardized assessments throughout the program serves as both a valuable learning experience and an objective evaluation tool, assuring nursing care aligns with professional and regulatory standards. Overall, enhancing nursing competency is a critical component of building a positive patient safety culture and should be prioritized by all organizations, to ensure all nurses are well equipped to meet the complex demands of an ever-changing healthcare landscape.

Conflicts of interest related to this abstract: None

P-2006

Addressing Maternal Mortality: A Call to Action

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Introduction

Maternal mortality is a devastating reality that affects women worldwide, with approximately 830 women dying every day from preventable causes related to pregnancy and childbirth. (WHO) <https://www.afro.who.int/health-topics/maternal-health>

Patient safety is a critical component in addressing this issue, as ensuring safe births for women can significantly reduce the risk of maternal mortality. Healthcare professionals are crucial in implementing protocols and procedures to protect both mother and child during labor and delivery. From monitoring vital signs to prompt interventions in case of complications, the focus on patient safety in maternity care is essential for preventing unnecessary maternal deaths. Safe birth practices such as skilled attendants, access to emergency obstetric care, and adequate postnatal support are key factors in reducing maternal mortality rates and ensuring positive outcomes for mothers and their babies.

Healthcare providers must prioritize patient safety initiatives in maternity care to protect women's lives during childbirth.

Aim/Objective(s)

To improve expectant mother's safety outcomes and quality of care by reducing the maternal and neonatal mortality and morbidity through the early detection of high risk pregnancies. In addition, to improve inconsistencies and delay in high-risk pregnancy detection leading to reduced sentinel events and improved maternal and neonatal mortality and morbidity.

Methods

FOCUS-PDSA

To identify and manage inconsistencies and delay in high-risk pregnancy detection leading to sentinel events and poor maternal and neonatal outcomes. A multidisciplinary team has a role to play like patient screening, clinical decision-making, and coordination of care. Identified the gaps in the system such as: fragmented care among healthcare providers in the General Hospital, Primary Health Centers, and private clinics; poor data regarding maternal health history, and limited training for Advanced Life Support in Obstetrics. Data is collected through (OVR). RCA is done by reviewing patient records, interviewing healthcare providers, identifying causative factors, and formulating corrective actions. Awareness campaign on Models of care – Safe Birth Pathway. Increase the detection of high-risk pregnancies by 50% in 2024. Data collection on identified high-risk pregnancies leading to sentinel events, their contributing factors, and corrective actions formulated. Review the collected data and evaluate the effectiveness of the formulated corrective actions.

Results

Review the collected data and evaluate the effectiveness of the formulated corrective actions. Is the detection of high-risk pregnancies improved, thereby reducing the number of sentinel events? Scaled and sustained the Safe Birth Pathway that includes high-risk pregnancy screening to the zoned areas and provided Advanced Life Support in Obstetrics Programme to all OB GYN doctors. However, the project successfully enhanced the reduction in sentinel events related to high-risk pregnancy. In 2024, to date, our hospital has only 1 sentinel event related to high-risk pregnancy, as compared to the year 2023, wherein 6 sentinel cases were identified. The implementation of low-cost, easily available, and accessible maternal health services, particularly antenatal care, supported by enhanced training and provision of Advanced Life Support in Obstetrics Programme, with the addition of Tele-health, empowered expectant mothers to consistently attend antenatal visits to the zoned areas, thereby reducing adverse pregnancy outcomes.

Conclusion

Through this project, our hospital held educational campaigns within health centers and schools regarding maternal and child health, we created an intra hospital agreement within the zoned regions to implement safe delivery protocols training and activation (pre-marriage, pre-pregnancy, during pregnancy) in health centers and small bed capacity hospitals in the area, we communicated with organizations to support our hospital regarding breastfeeding, continuous monitoring of indicators related to safe delivery, held monthly meetings with the Obstetrics and Gynecology Department on any challenges encountered with safe birth and high-risk pregnancies, a hotline was established between our OB Consultant on duty and Neonatal Intensive Care Department and one of the hospitals for consultations on urgent cases of high-risk pregnancy and neonatal emergencies, nurses and doctors were trained on effective medical documentation, OB GYN doctors received training in Advanced Life Support in Obstetrics, likewise, nurses received training in Basic Life Support in Obstetrics, hospital staff were trained and knowledgeable on approved and updated OB GYN

policies, hospital ensured that there is continuous supply of fetal CTG papers and other related forms for birth monitoring, equipment like ultrasound and CTG machines, incubators, respirators, phototherapy devices in the hospital were regularly checked for good working capacity.

Conflicts of interest related to this abstract: None

P-2007

Advancing Nursing Leadership and Workforce Sustainability Through Structured Development

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Introduction

The global healthcare sector faces a critical challenge: the increasing shortage of skilled nursing professionals due to high turnover, migration, and burnout. To ensure workforce sustainability and maintain high-quality patient care, hospitals must go beyond retention strategies and invest in structured nursing development programs. At Almora General Hospital (AGH), we recognized this challenge and initiated a Nurse Development Program (NDP) to build a pipeline of skilled, resilient, and patient-centered nurses. The program moves beyond traditional clinical training by integrating leadership development, mentorship, structured career pathways, and patient experience-focused care models. This initiative aligns with AGH's broader commitment to enhancing clinical and operational outcomes through a positive patient experience and a well-supported, engaged healthcare workforce. By strengthening nursing leadership and reinforcing a culture of excellence, AGH is creating a sustainable, high-performance nursing workforce capable of adapting to evolving patient care demands.

Aim/Objective(s)

The Nurse Development Program (NDP) aims to enhance clinical competency, leadership capacity, and workforce sustainability through structured training and career progression. The key objectives are to:

- Bridge the gap between nursing education and real-world hospital practice through progressive skill-building and mentorship.
- Empower nurses as future leaders by equipping them with critical thinking, decision-making, and team leadership skills.
- Improve patient-centered care outcomes by integrating compassionate, evidence-based care models into nurse training.
- Reduce turnover and enhance retention by offering structured career pathways and professional development incentives.
- Create a scalable, replicable model for other hospitals aiming to develop nursing leadership and workforce resilience.

Through this program, AGH ensures that nurses are not just caregivers, but also key drivers of sustainable healthcare excellence.

Methods

AGH's Nurse Development Program (NDP) follows a structured, competency-based model that integrates clinical training, leadership development, and career progression. The program consists of:

- A Three-Stage Development Pathway: Nurses progress from foundational clinical skills to advanced patient care, specialty training, and leadership roles.
- Hands-on Clinical Training & Mentorship: Senior clinicians provide direct supervision and personalized coaching.

- Leadership & Ethical Decision-Making Training: Nurses engage in real-world case studies, crisis management simulations, and team-based decision-making exercises.
- Structured Career Progression: Performance-based assessments guide promotions and leadership assignments.
- Patient-Centered Care Modules: Nurses are trained in effective communication, empathy, and cultural competence to enhance the patient experience.

By embedding leadership and resilience-building into nursing education, AGH ensures its workforce is future-ready, adaptable, and capable of delivering superior patient care.

Results

The Nurse Development Program (NDP) has produced measurable improvements in workforce retention, patient experience, and operational efficiency. Key outcomes include:

- 30% (approx.) increase in nurse retention, directly aligning with AGH's broader workforce engagement strategy.
- 20% (approx.) increase in patient satisfaction scores, reflecting the program's emphasis on nursing leadership in patient-centered care.
- Improved clinical competency, as seen in higher patient safety and care quality scores from internal evaluations.
- Increased leadership participation, with 20% (approx.) of NDP graduates assuming senior nursing or mentorship roles within the hospital.
- Enhanced teamwork and communication, contributing to a 20% (approx.) reduction in clinical errors.

These results demonstrate that nursing leadership development has a direct impact on patient outcomes and operational success, reinforcing AGH's commitment to engaging, retaining, and empowering the healthcare workforce.

Conclusion

AGH's Nurse Development Program exemplifies a sustainable, scalable solution for addressing the global nursing workforce crisis. By integrating clinical excellence with leadership development, the program ensures that nurses are not only well-trained professionals but also future healthcare leaders. This initiative directly supports AGH's mission to enhance clinical and operational outcomes while fostering a positive patient experience. It aligns with our previous research showing that an engaged and well-supported nursing workforce leads to better patient care, improved hospital efficiency, and stronger organizational culture. Moving forward, AGH will continue refining its leadership training frameworks, expanding mentorship opportunities, and integrating digital tools to further enhance nursing leadership development. This program serves as a model for other hospitals aiming to build a resilient, high-performing nursing workforce.

By investing in nurse leadership today, we are shaping the sustainable healthcare systems of tomorrow.

Conflicts of interest related to this abstract: None

P-2008

Antibiotic resistance before, during, and after the COVID-19 pandemic: a retrospective study

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Introduction

Antibiotics are one of the most significant breakthroughs in the medical field. Morbidity and mortality caused by bacterial infections have significantly declined as a result of using antimicrobials. However, development the antibiotic resistance has become a serious public health issue worldwide, affecting the health of humans, animals, and environment.

In the era of COVID-19 pandemic, the majority of the patients received antibiotics which were not prescribed based on microbiological evidence. Approximately 70% of COVID-19 patients were treated with antibiotics or antifungals, and only 10% of them had either bacterial or fungal coinfections. AR increased in most countries during the COVID-19 pandemic to levels higher than pre-pandemic levels. The factors that contributed to the surge in AR during the pandemic include improper use of antibiotics, self-prescription of antibiotics without consulting a physician, overprescription of antibiotics for COVID-19 patients, lack of antimicrobial stewardship programs, and lack of awareness of ASP among physicians

Aim/Objective(s)

This study aimed to determine AR prevalence before, during and after the pandemic in Saudi Arabia (SA). Further, it identified the patterns of AR among Gram-positive and Gram-negative bacteria before, during, and after COVID-19. Finally, it attempted to assess the factors associated with AR classification and factors associated with the death of patients with positive AR.

Methods

A retrospective cross-sectional study was employed to identify patients with positive AR bacteria between March 2019 and March 2022. The bacterial isolates and patients' data were identified from laboratory and medical records departments retrospectively. Binary logistic regression analysis was performed to identify the factors associated with AR and deaths. Multinomial logistic regression was applied to confirm the factors associated with AR classification.

Results

AR Gram-negative bacteria decreased during and after the pandemic. However, *S. aureus* showed a negligible increase in resistance rate after pandemic, while *E. faecium*, recorded a higher-than-average resistance rate during the pandemic. The prevalence of pan drug resistance (PDR) during the pandemic (85.7%) was higher than before (0%) and after (14.3%), $p = 0.001$. The length of stay and time were significant predictors for AR classification. The odds of multi drug resistance (MDR) development to PDR during the pandemic were 6 times higher than before and after ($OR = 6.133$, $CI =$, $p = 0.020$). Age, nationality, COVID-19 infection, smoking, liver disease, and type and number of bacteria were associated with death of patients with positive AR.

Conclusion

This study demonstrated that the prevalence of PDR during the COVID-19 pandemic was high. As a consequence of the strict implementation of policies provided by the IPC department and the government during COVID-19, resistance of Gram-negative bacteria decreased during and after the pandemic compared to before the pandemic. However, *S. aureus* showed negligible resistance after the pandemic, which could be due to the resumption of routine work, and *E. faecium* indicated high resistance during the pandemic, which could be due to factors related to the patients' status. The predominance of AR bacteria did not change substantially. Further studies are recommended to explore the fundamental reasons for the high prevalence of PDR and increased *E. faecium* AR during the COVID-19 pandemic.

Conflicts of interest related to this abstract: None

P-2009**Aortic center – a center for comprehensive treatment of aneurysms of the main artery and its branches**

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Introduction

Aneurysms are an insidious diseases, because very often they cause practically no symptoms. For this reason, they are deadly dangerous, because the aneurysm can unexpectedly rupture. Rupture is the most dangerous complication, which is closely related to the size of the aneurysm. It is assumed that in an abdominal aortic aneurysm of 50–59 mm in diameter, rupture will occur within one year in 1 to 11% of patients. In aneurysms of 60–69 mm in diameter, rupture will occur in 10 to 22% of cases, and in those with a diameter above 70 mm in 30–33% of patients. 78% of patients with a ruptured aneurysm die, 3/4 of them before reaching the hospital.

Aim/Objective(s)

- Creation of a supra-regional comprehensive aortic aneurysm treatment center
- Reduction of the number of aneurysm complications (aortic aneurysm rupture, dissection, embolization).
- Screening tests for aortic aneurysm detection
- Providing care to as many patients as possible within the vascular surgery clinic and vascular surgery department
- Providing treatment to patients with any type of aortic aneurysm and its branches – comprehensively and once (if the clinical situation allows) – aneurysms of the aortic arch, descending aorta, abdominal aorta, as well as arteries branching off the aorta
- Reduction of aneurysm rupture cases and patient mortality

Methods

A patient diagnosed with an aortic aneurysm is admitted to the clinic without a queue. Regular tests and observations allow the procedure to be performed at the most appropriate time, and then to monitor the patient's health after the operation. We treat all types of aneurysms of the main artery and its branches using several treatment techniques:

- open method – classic aneurysm surgeries
- endovascular method
- hybrid method – a combination of the open and endovascular method

Stages:

- Qualification for surgery based on clinical examination of the patient, abdominal ultrasound.
- AngioCT examination – thoracic, abdominal aorta, iliac and femoral arteries – necessary for correct qualification for surgery.
- Initial dimensioning of the aneurysm and selection of the appropriate treatment method (open, endovascular), in the case of choosing the endovascular method – selection of stent graft – based on this qualification for the procedure.
- Before the procedure, consultation with a cardiologist with echocardiography.

Results

The number of patients diagnosed with aortic aneurysms treated at the aortic center is growing every year:

2021 – 424

2022 – 497

2023 – 554

At the same time, the mortality rate in the vascular surgery department is decreasing with the increase in the number of patients:

2021 – 1.33%

2022 – 0.72%

2023 – 0.60%

The creation of the aortic center and the surgeries performed allows for a reduction in the number of patients admitted to hospital due to aneurysm rupture, and thus a reduction in patient mortality due to this reason. Among other things, we perform the treatment of aneurysms of the main artery, including visceral vessels – one of the most difficult endovascular procedures – as one of the few in Poland. Many procedures are performed percutaneously, which shortens the hospitalization and convalescence time to a few days, and reduces postoperative trauma. After the procedure, constant monitoring, because the aorta can still expand – monitoring in the clinic after 1, 3, 6, 12 months and then every 6 or 12 months. After 12 months, a control CT angiogram. The patient should be monitored for the rest of his life. The aortic center's activities are fully self-financed.

Conclusion

Aortic center consists of: a vascular surgery clinic and a vascular surgery department (which includes an operating theater, angiography lab, postoperative room). Such organization allows for more coordinated diagnostics and treatment, and as a result, a reduction in the number of patients with complications: ruptured aneurysms, dissection or embolism, and consequently – a reduction in patient mortality. 24-hour on-call is provided, allowing for the treatment of emergencies. Patients from other centers are also consulted 24 hours a day (online or on site). Treatment planning is carried out using 3D models, mapping using 3D printers. We have created two consignment warehouses of endovascular equipment for the treatment of aortic aneurysms – for patients for urgent and accelerated operations (organization of the procedure within 30 minutes). The teams are formed by trained medical personnel. Aneurysms are measured immediately after sending the radiological examination, the treatment method and endovascular equipment are selected. Patients do not have to be referred to other facilities – they are comprehensively supplied in our hospital. At the same time, our facility provides assistance to other centers in the region.

Conflicts of interest related to this abstract: None

P-2010**Assessing knowledge and attitude of nurses towards prevention of pressure injury to reduce its prevalence**

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Introduction

Pressure injuries can greatly affect a patient's health, safety, and quality of life. The prevalence of pressure injuries is a widely used clinical indicator of patient safety and quality of care. The knowledge and attitudes of nurses towards preventing pressure injuries are vital for providing safe, high-quality healthcare. Nursing in Kuwait suffers from a research gap on this topic. In the current study, our objectives were to assess the level of nurses' knowledge and attitudes to PI prevention and to explore their relationship with the prevalence of PIs and PI prevention practices.

Aim/Objective(s)

We aimed to fill this research gap and to guide strategies for improving nursing care and service outcomes. It is anticipated that this study will enhance nurses' knowledge on PIs, help to change their attitudes towards prevention and advance PI prevention strategies in public healthcare settings. Achieving those objectives will eventually lower the prevalence of PIs, decrease the costs associated with PI, shorten inpatient hospital stays and reduce the risk of hospital-acquired complications.

Methods

This was a cross-sectional study conducted in the public general hospitals of Kuwait. The Standing Committee for Coordination of Health and Medical Research in Kuwait approved the research (1962/2022). An online form, a Modified Pieper's Pressure Ulcer Knowledge Test and the Moore and Price scale were used to gather data, covering variables related to hospitals, nurses, patients, pressure injuries, and prevention practices. We processed and analysed data using Microsoft Excel and SPSS 23.

Results

The mean national prevalence of pressure injury was 17.6% (95% CI: 11.3–23.8). Regarding preventive measures, "pressure injury assessment on admission" has been provided to 65.5% of patients. Correlation analysis revealed that the only statistically significant correlation with the prevalence of hospital-acquired pressure injury was "pressure injury assessment on admission", which was strongly negative ($p = -0.857$). The median score of nurses' knowledge on preventing pressure injuries was 73.2% (IQR: 68.3–78.0), and only 31.7% of the knowledge test items were answered correctly by 90% of participants or more. The median attitude score was 41.0 (IQR: 37.0–44.0). There were statistically significant strong positive correlations between nurses' age, years of work experience, attitude score, and the percentage of trained staff complying with measures against pressure injury. Attitude score had a statistically significant and strongly negative correlation with the rate of hospital-acquired pressure injury.

Conclusion

This study offers inestimable insights into the field. In Kuwait, nurses' knowledge of how to prevent PIs is unsatisfactory to borderline satisfactory. The nurses generally have positive attitudes towards preventing pressure injuries, which has a strong negative correlation with hospital-acquired pressure injury rate. Despite this, the prevalence of hospital-acquired pressure injuries is still higher in Kuwait than it is globally. Many risk factors for the development of pressure injuries are public health concerns, and effective mitigating strategies are needed. Preventing pressure injuries is a complex, multifaceted process, and a high prevalence of pressure injury and low compliance with prevention practices cannot be explained solely by poor knowledge or negative attitudes. Studying the barriers to practicing pressure injury prevention and managing established pressure injuries would offer a wider perspective into this national issue, especially since the positive attitude of Kuwait's nurses was not mirrored by compliance with pressure injury prevention practices. However, there is an urgent need to work with the parties concerned to establish effective education and training programmes to bridge these gaps.

Conflicts of interest related to this abstract: None

P-2011

Ausbildungs-OP

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Introduction

The surgical department (operation theatre – OR) is increasingly affected by a shortage of skilled professionals, which negatively affects patient care and increases the workload of the existing staff. At the same time, training institutions and hospitals face the challenge of meeting growing legal training requirements without disrupting surgical operations. The competition between performance pressure and training requires innovative approaches to ensure high-quality education while maintaining operational efficiency. Furthermore, there is a shortage of qualified practical instructors, making it difficult to implement legally mandated training hours of 10-15%. In addition to that, employer attractiveness plays a crucial role: Well-structured training programs contribute to the long-term employee engagement of skilled professionals and promote quality and performance improvements within the OR department.

Aim/Objective(s)

The primary goal of this project is to enhance efficiency and attractiveness in OR training through optimized structures and processes. The key-objectives are:

- Increasing training capacities and long-term employee engagement of apprentices.
- Expanding capacities to reduce time pressure in training.
- Ensuring regulatory compliance with legal training time requirements (10-15%).
- Implementing structures to enhance the attractiveness of practical instruction.
- Establishing reliable training structures for both nursing professionals and SHO/StR (Senior House Officer/Specialty Registrar).
- Enhancing confidence in routines and conveying transparency through standardized training guidelines.

These measures aim not only to improve training quality but also to ensure long-term workforce sustainability within the OR department.

Methods

To achieve these objectives, we implemented various measures and arrangements:

1. Structuring the practical instruction

- **Introduction** of a mandatory training curriculum to better integrate education into daily OR operations.
- Training of practical instructors and staff to enhance the quality of instruction.
- Implementation of fixed training times to comply with the required 10-15% training time set by law.

2. Expanding capacity and process optimization

- Optimization of personnel planning to ensure better trainee-to-mentor ratios.
- Reduction of training pressure through a structured distribution of training hours.
- Development of digital documentation and evaluation systems to track training progress.

3. Enhancing employer branding

- **Introduction** of professional development programs for OR nurses and assistant physicians.
- Promotion of interdisciplinary training teams to improve collaboration.
- Alignment of training programs with modern standards to increase attractiveness for new professionals.

Results

The implementation of these measures and arrangements had already yielded positive results:

1. Increased training capacities

- A higher number of trainees and skilled professionals can be integrated into the OR process by now.
- The quality of training has significantly improved through targeted training for practical instructors.

2. Optimization of training processes

- The introduction of structured training times has improved the balance between training and clinical operations.
- The workload of OR staff has been reduced through optimized time management approaches.

3. Increased employee satisfaction and employee engagement

- Clearly defined structures providing better integration for apprentices and a stronger sense of belonging to the employer.
- Standardized training protocols have led to greater procedural confidence and transparency within the team.

4. Fulfilling regulatory compliance

- Most areas successfully implemented the required 10-15% training time.
- Digital tools improving the quality of documentation and evaluation.

Conclusion

The optimization of OR training proved to be an effective strategy for both: engaging skilled professionals and ensuring quality standards. The combination of structured training plans, targeted practical instruction, and capacity expansion has not only improved training quality but also raised the attractiveness of the profession. The long-term implementation of these arrangements and measures will be crucial in addressing the OR workforce shortage, while maintaining high-quality patient care. In the future further efforts will focus on strengthening interdisciplinary collaboration as well as developing and implementing scientific supervision of the training process in order to ensure the sustainability of these improvements.

Conflicts of interest related to this abstract: None

P-2012

Better data visualisation for data driven decisions: development and evaluation of a new design solution for hospital performance comparison

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Introduction

National quality monitoring and the associated public reporting of healthcare provider performance data are becoming common practices around the world. The ultimate goal of public reporting is to drive quality improvement in healthcare by enabling comparison of provider performance. Various stakeholders (e.g. governments, regulators, healthcare providers/professionals, patients) are increasingly interested in such comparisons to support data-driven decision making. For a fair comparison, the data is often risk-adjusted. However, comparative data on provider performance can only realise its potential if the information provided is accessible, accurate and understandable to end users. Patients, providers and professionals are known to have difficulties in understanding and interpreting this information.

Aim/Objective(s)

Our aim was to develop together with end users a new design solution for national risk-adjusted hospital performance comparisons to improve the understandability and usability of provider performance comparisons, and to evaluate this new solution.

Methods

A user-centred, multiple methods study design was used. The qualitative methods consisted of semi-structured online interviews with end-users. Purposive sampling was used to recruit end-users from different levels and functions in the Swiss healthcare system for the qualitative parts. The data were analysed using thematic analysis. The quantitative evaluation consisted of a non-clinical, between-subjects, randomised controlled online trial (A/B testing). The primary outcomes 'correct interpretation' of key messages and 'perceived usability' of the visualisations were measured. For the quantitative part, convenience sampling of end-users who were likely to have already been exposed to the visualisation of national hospital comparisons was used. Data was collected using LimeSurvey. The System Usability Scale was used to assess 'perceived usability'. Standard descriptive statistics, Pearson chi-square test and t-test were used to analyse the data.

Results

A total of 14 representatives from 10 entities were involved in the qualitative part (1 Federal Office of Public Health, 1 Federal Quality Commission, 2 cantonal health departments, 1 health insurer, 1 hospital association H+, 1 National Association for Quality Development in Hospitals and Clinics, 7 from three hospitals [including nursing experts, managers and IT specialists]). The thematic analysis revealed three main themes with two to four sub-themes: (1) 'Clarity by design' (sub-themes: Reduction, Colour scheme, Tension between one-dimensional and two-dimensional design elements, Logical axis direction); (2) 'Usability by design' (sub-themes: Grouping and filtering function, Availability of overview and detailed information); (3) 'Suitability for quality development' (sub-themes: Underlying data quality, Availability of reference values). In the quantitative part, 200 end-users completed the questionnaire (control group [CG, standard visualisation by caterpillar plots] n = 94; intervention group [IG, new visualisation] n = 106). Correct identification of all positive, negative and inlier hospitals was significantly higher in the IG than in the CG (55.7% vs. 12.8%, p < 0.001). Usability was perceived to be significantly higher in the IG than in the CG (t(198) = 3.145, p = 0.002).

Conclusion

A user-centred design solution for a risk-adjusted hospital comparison was developed. The new design solution focused on key messages of hospital comparisons (criterion 'clarity by design'), end-user-centred functionalities and presentation elements (criterion 'usability by design'), and conditions for creating a trustworthy and useful comparison to drive quality improvement (criterion 'suitability for quality development'). End-users were positive about the new design solution when compared to the standard visualisation with caterpillar plots. Key messages were better understood and usability was perceived to be higher with the new design solution. Incorporating the criteria identified in this study into the design and evaluation of visualisations has the potential to empower end users to use comparative quality data. Data-driven decision making by end users will be enhanced and the intended effects of public reporting in terms of incentivising quality improvement will be stimulated.

Conflicts of interest related to this abstract: None

P-2013**Beyond Readmission and Mortality: Secondary Outcomes from a Hospital-at-Home Randomized Trial**Dr. Michael Maniaci MD*Mayo Clinic, USA***Introduction**

Hospital-at-home (HaH) programs, such as Mayo Clinic's Advanced Care at Home (ACH), offer a transformative approach to care delivery. While primary outcomes like readmission and mortality have been studied extensively, secondary outcomes like patient safety and demographic-specific impacts remain underexplored.

Aim/Objective(s)

This study aims to evaluate secondary outcomes of the ACH program compared to traditional inpatient care, focusing on patient falls, medication errors, hospital-acquired infections, and differences across rural-urban and sex demographics in composite 30-day readmissions and mortality.

Methods

A 1:1 matched cohort analysis was conducted using data from the ACH program and traditional admissions. Outcomes assessed included patient falls, medication errors, hospital-acquired infections, and 30-day composite readmission and mortality rates, stratified by rurality and sex. Statistical comparisons were made using odds ratios with 95% confidence intervals.

Results

No significant differences were found between ACH and traditional inpatient care in patient falls (3 vs. 0), medication errors (none reported in either cohort), or hospital-acquired infections. Additionally, composite 30-day readmissions and mortality rates showed no significant disparities across rural (OR: 0.753, $p = 0.643$) and urban (OR: 0.808, $p = 0.491$) populations or between male (OR: 0.809, $p = 0.571$) and female (OR: 0.759, $p = 0.502$) patients.

Conclusion

The ACH program demonstrated comparable safety and efficacy to traditional inpatient care, with no significant differences in key secondary outcomes or demographic subgroups. These findings support the viability of HaH models across diverse populations and settings.

Conflicts of interest related to this abstract: None

P-2014**Beyond Screening: an encompassing and holistic patient care through the NBS Continuity Clinic**Dr Judy Pipo-Deveza Medical Specialist IV, Ms Thracia Bless Ventura Nurse 1*Mariano Marcos Memorial Hospital and Medical Center, Philippines***Introduction**

The Newborn Screening Continuity Clinic (NBSCC) was created to cater to and provide long-term management of all patients who have been confirmed with conditions that were detected through the expanded newborn screening. The NBSCC ensures the early treatment, management, and continuity of care of all babies confirmed of the disorders screened in the Expanded Newborn Screening program. The NBSCC is unique to the Philippines such that patients are not left out after the screening and diagnosis of their conditions. Before its introduction, patients are responsible of getting their physician or pediatrician making it difficult for them to receive the best quality care. With the advent of NBSCC, they do not have to look for their own doctors but instead will be endorsed to this clinic where life-

long management is provided. The patients have an easier access to the specialists, and a better referral network needed to manage their conditions.

Aim/Objective(s)

The NBSCC aims to provide an encompassing and sustained management of patients with confirmed disorders detected through newborn screening. Encompassing because comprehensive management is provided like access to different subspecialists namely, geneticists, hematologists, endocrinologists, neurologists, cardiologists, developmental pediatricians and other specialists. Genetic counseling and dietary services are also given, providing a holistic care to these children. Sustained because the management is life-long; other support given are laboratory workups, medications, and medical food. Transportation is also provided to access the clinic and hospitals as well as to participate in other activities. Aside from taking care of the welfare of these patients, another objective of the clinic is to maintain an accurate data and diligent reporting of cases endorsed and seen in the clinic. Monthly audits are held to ensure that proper reporting is done enhancing operational efficiency and transparency, and that the best care is given to these patients.

Methods

This is a descriptive study of the processes and procedure at the Mariano Marcos Memorial Hospital and Medical Center – Newborn Screening continuity clinic. The flow of the Newborn screening program is that: after results of the filter card is tested in the laboratory, for positive results, they are endorsed to the short-term follow-up for acute management of their disorders and confirmatory testing. Once the patient is confirmed with the disorder and referral to the subspecialist doctors have been initiated, the patients are then endorsed to the NBSCC for continuity of care and lifetime monitoring and treatment of their disorders. After the patients are endorsed to the clinic, the patients are recalled for their initial check-up. Anthropometric measurements, dietary recall, complete physical and neurological examinations are done. Referral to the specialists like Endocrinology, Hematology, Genetic and Metabolics, Neurology and Neurometabolics, Developmental, Cardiology, Nephrology, and other needed subspecialists.

Results

A total of 155 patients are actively seen in the clinic. The diseases included in the panel are endocrine disorders, hematologic disorders, and Inborn errors of metabolism. Alpha Thalassemia makes up 64.3%, followed by Congenital Hypothyroidism 22.9%, Congenital Adrenal Hyperplasia 8.3%, and Inborn Errors of Metabolism 4.5 % (Maple Syrup Urine Disease, MCAD, CPT, ASLD, LCHADD, and Biotinidase deficiency). The NBSCC has a dedicated head and a full-time nurse. The head is a Pediatric Neurologist and Neurometabolic specialist and is also a consultant of the department of Pediatrics. Aside for the daily clinic operations, this clinic also coordinates with our tertiary hospital in case our patients need urgent care and hospitalizations and is also responsible in the distribution and storage of medicines and medical food. Moreover, we also collaborate with the Center for Human Genetics Services in monitoring the patients and in facilitating genetic counseling. Distance has never been a hindrance with NBSCC as it practices teleconsultation most specially for our patients with Inborn Errors of Metabolism. Consultations with clinical geneticists has been made more accessible through this. Other activities include Reunion of saved babies, Inborn Errors of Metabolism camp, and ENBS caravan, and annual conventions.

Conclusion

The Expanded Newborn Screening has held a vital part in the public health program of our country. It has saved and contin-

uously saves babies from critical illness, mental retardation, delayed growth and development thus creating a brighter future for these children with congenital disorders. The existence of the Newborn Screening Continuity Clinics plays a fundamental role in achieving optimal outcomes through a sustained and long-term quality patient care. With its standardized policies and comprehensive system, this program has emerged into a lifelong process, which doesn't end upon releasing the screening result. The presence of these clinics strategically located throughout the country has made the best management of children with confirmed disorders attainable. The NBSCC serves as a referral network for confirmed patients, making it more accessible for them to seek consultation from the pediatric subspecialists and other services within and outside the facility. With the collaborative efforts of our program partners, our clinic has reached out and continue to serve numerous patients and their families. True to its tagline – nurturing lives, fostering hopes, the NBSCC will continue to thrive and strive to heed to the call of providing a comprehensive and holistic care beyond screening.

Conflicts of interest related to this abstract: None

P-2015

Beyond the Wall of Silence: Assessing the Impact of Patient Safety Corners on Incident Rates in a Tertiary Care Hospital

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Introduction

Patient safety is essential for quality healthcare; however, underreporting of incidents obstructs efforts to improve the safety culture within hospitals. In various healthcare settings, frontline staff often hesitate to report adverse events due to fear of blame, lack of awareness, or the belief that reporting mechanisms are ineffective. This "wall of silence" prevents the identification of systemic issues, ultimately compromising patient care. To address these challenges, the Tondo Medical Center has introduced the Patient Safety Corner, a dedicated space within hospital wards designed to empower all staff in incident reporting. These installations serve as visible and accessible hubs for safety-related information, anonymous reporting, and proactive staff engagement in risk mitigation. The Patient Safety Corners aim to break down barriers to reporting and enhance hospital-wide practices for patient safety by fostering a culture of openness and continuous improvement.

Aim/Objective(s)

The Patient Safety Corner initiative is developed to build a culture of safety awareness among hospital staff and actively reduce the occurrence of patient safety incidents. This program aims to address significant incident reporting challenges, improve staff engagement in safety practices, and create an environment that prioritizes proactive risk mitigation in patient care. The program's primary objective is to enhance staff awareness regarding patient safety protocols, reporting mechanisms, and preventive measures. By providing an accessible space within hospital wards, the Patient Safety Corner is an educational platform where healthcare professionals can access vital safety-related information, guidelines, and real-time updates on best practices. Furthermore, this encourages a culture of openness and non-punitive reporting, empowering staff to identify and report near-misses and adverse events without hesitation. The program aims to strengthen the hospital's ability to analyze trends, address systemic issues, and implement practical corrective actions by promoting transparency and accountability.

Methods

A quasi-experimental pre-post study design, combining descriptive and inferential statistical analyses, will be utilized to measure and compare incident rates before and after the intervention's implementation over 12 months (12 months pre- and 12 months post-implementation). Descriptive statistics, including frequency, percentage, mean, and standard deviation, will summarize the number and types of reported patient safety incidents, providing an overall picture of incident trends. To determine the statistical significance of changes in incident rates, Chi-square tests will be employed to analyze categorical data, mainly to compare the proportions of specific patient safety incidents occurring before and after implementation. A significance level of $p < 0.05$ will be set for all statistical tests, ensuring that any observed changes in incident rates are not due to chance. To account for variations in the hospital census, and to avoid any confounding in the analysis, patient safety incident rates will be standardized per 1,000 patient days.

Results

A chi-square analysis was conducted to evaluate the effectiveness of the Patient Safety Corner implementation by comparing patient safety events between 2023 and 2024. The analysis yielded a chi-square value of 14.15 ($df = 12$), which exceeded the critical value of 2.179, demonstrating a statistically significant difference between the pre and post-implementation periods. The total number of patient safety events decreased from 360 incidents in 2023 (pre-implementation) to 239 incidents in 2024 (post-implementation). This reduction in safety events, when analyzed while accounting for variations in hospital census, suggests that the implementation of the Patient Safety Corner was effective in enhancing staff awareness of patient safety protocols, reporting mechanisms, and preventive measures. The observed decrease of 121 patient safety events (34% reduction) coupled with the statistically significant chi-square results provides strong evidence that the Patient Safety Corner intervention had a positive impact on patient safety outcomes. This improvement was demonstrated even after controlling for potential confounding factors such as fluctuations in hospital census. Fall incidents decreased from 81 cases in 2023 to 50 in 2024. Falls involving children under three dropped from 74% (60 cases) to 48% (24 cases), though injury rates increased from 22.22% to 28%.

Conclusion

The implementation of the Patient Safety Corner demonstrated significant contributions to health service improvement through its comprehensive focus on key safety domains. By addressing the five International Patient Safety Goals – patient identification, effective communication, medication safety, surgical safety, and fall prevention – along with three additional critical areas of safe childbirth, blood transfusion safety, and prevention of sentinel events, the initiative created a structured framework for safety awareness. The program's effectiveness is evidenced by the 34% reduction in overall patient safety incidents, decreasing from 360 events in 2023 to 239 events in 2024. Particularly notable was the improvement in fall prevention, where incidents decreased from 81 to 50 cases, with a marked reduction in falls among children under three years old. This substantial decrease suggests enhanced staff vigilance and improved preventive measures. The Patient Safety Corner served as a central hub for safety information, fostering a culture of awareness and preventive action. These improvements indicate that the Patient Safety Corner effectively translated safety guidelines into practical, actionable measures, resulting in measurable enhancements to patient care quality and safety outcomes.

Conflicts of interest related to this abstract: None

P-2016

Beyond the Waves: Development of a Multisectoral Action Plan on Drowning Prevention in Ilocos Norte

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Introduction

Drowning is a critical yet preventable public health issue that disproportionately affects low- and middle-income regions, particularly in communities with significant exposure to water hazards. In the Philippines, drowning consistently ranks among the leading causes of unintentional injury-related deaths, especially in vulnerable populations such as children and young adults. Ilocos Norte, a province characterized by rivers, coastal zones, and irrigation canals, faces an alarming drowning mortality rate of 4.1 per 100,000 population. In recent years, the province has reported multiple drowning incidents, particularly during peak agricultural and recreational seasons, highlighting gaps in water safety measures, supervision, and emergency response. Recognizing this challenge, MMMHMC pioneered a transformative shift from its traditional curative role to a proactive public health leader, by spearheading a multisectoral, community-driven approach to drowning prevention tailored to the province's unique risks and needs.

Aim/Objective(s)

The project aimed to conduct a comprehensive situational analysis of drowning in Ilocos Norte and, through a collaborative, multisectoral, and community-centered approach, develop a medium-term action plan for endorsement to local chief executives for implementation. Specifically, the project sought to (1) Assess drowning trends, risk factors, and existing safety gaps using evidence-based analysis. (2) Develop a strategic framework aligned with national and global drowning prevention guidelines while addressing local needs (3) Identify and implement actionable strategies to mitigate drowning risks, including education, training, infrastructure improvements, and policy enhancements. (4) Strengthen strong collaboration among stakeholders, including local governments, healthcare institutions, education sectors, and emergency response teams, to ensure sustainable implementation and long-term community impact.

Methods

This project employed a participatory action research approach. To assess the current drowning situation, a comprehensive situational analysis was conducted prior to the workshops. A survey tool was deployed across all twenty three municipalities, collecting quantitative data on drowning incidents, risk factors, and gaps in safety measures. MMMHMC collated and analyzed the data, which was then sent back to each municipality for verification and consensus. Following this, two workshops were conducted with representatives from local government units, health and disaster offices, academe, and rescue organizations. A non-probability sampling method was used to engage key stakeholders directly involved in drowning prevention efforts. The workshops facilitated brainstorming sessions and consensus-building activities, utilizing tools such as SWOT analysis and prioritization matrices using the WHO toolkit for developing a multisectoral action plan. The draft plan underwent validation sessions to ensure alignment with stakeholder insights and the Department of Health's priority agenda.

Results

The local situational analysis revealed high-risk groups: males (40-59) and children (1-4), requiring targeted strategies. Incidents clustered in rivers, canals, and coastal zones of Bacarra,

Solsona, Pagudpud, Vintar, and Dingras. Key contributing factors were alcohol consumption among adults and inadequate child supervision. Limited lifeguards, safety infrastructure, and low population with formal water safety training (<1%) compounded risks. Inconsistent regulatory enforcement further hindered prevention efforts. Workshops with multi-sectoral stakeholders (n = 60) identified strategic areas: Governance, Prevention, Management, and Surveillance. Interventions included establishing the Ilocos Norte Drowning Prevention Task Force, integrating water safety education into curricula, deploying signage in identified high-risk zones, implementation of a digital provincial drowning surveillance system, and training at least 50% of first responders. A campaign launch engaged 186 representatives, securing agency commitments. A comprehensive action plan, outlining timelines, budgets, and stakeholder roles, was developed to ensure sustainable intervention implementation. The project successfully translated data-driven insights into impactful interventions.

Conclusion

The development of the Multisectoral Action Plan on Drowning Prevention in Ilocos Norte shows the potential of a structured, evidence-based, and collaborative approach that can address a critical public health issue. By integrating governance, education, emergency response, and surveillance, the initiative presents a sustainable and scalable model for drowning prevention. Through strong stakeholder collaboration, the project has implemented immediate interventions while laying the foundation for long-term policy change and community resilience. The institutionalization of a drowning surveillance system ensures continuous adaptation to emerging challenges, strengthening the impact of prevention efforts. Future research should evaluate the long-term effectiveness of interventions, assess behavioral changes in high-risk populations, and explore the role of technology in enhancing surveillance and response mechanisms. Sustaining this initiative requires continuous engagement, periodic evaluation, and integration into broader public health and disaster risk reduction strategies. By promoting a culture of prevention and collaboration, MMMHMC's efforts contribute to national and regional drowning prevention frameworks. This initiative serves as a replicable model, demonstrating how multisectoral action can drive meaningful and lasting change in drowning prevention and injury reduction.

Conflicts of interest related to this abstract: None

P-2017

Building a Multidisciplinary Diabetic Foot Care Network in Girona: Enhancing Outcomes, Collaboration, and Innovation

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Introduction

Diabetes mellitus is a prevalent condition that significantly impacts morbidity and mortality, particularly through complications like diabetic foot disease. Diabetic foot ulcers (DFUs) are a leading cause of non-traumatic lower limb amputations, requiring coordinated, multidisciplinary management. Currently, the Girona Hospital Network has only one multidisciplinary diabetic foot unit at Trueta Hospital, serving a limited geographical area and treating patients with active DFUs. This project aims to expand specialized diabetic foot care by establishing a network of multidisciplinary units across the XHG centers. By standardizing protocols and care pathways, the initiative seeks to improve early detection, treatment, and outcomes for patients with diabetic foot complications.

Aim/Objective(s)

To implement the AQUAS 2019 guidelines for diabetic foot care across Girona's healthcare network (XHG), a structured approach is essential. First, establish multidisciplinary diabetic foot units (DFUs) in key hospitals, ensuring equitable access to specialized care. Standardize protocols for early detection, treatment, and referral of diabetic foot complications, integrating these into electronic health records. Enhance coordination between primary care, hospitals, and vascular surgery through shared systems and care coordinators. Focus on reducing major amputations by promoting timely interventions, advanced wound care, and revascularization. Invest in continuous professional development and research to build expertise and innovate care. Monitor progress using key performance indicators like amputation rates and patient satisfaction. Engage stakeholders for funding and sustainability, and scale the model by sharing best practices. This approach ensures streamlined, evidence-based care, improving outcomes for diabetic foot patients across Girona.

Methods

The project adopts a phased implementation strategy:

1. Situation Analysis: Evaluating current diabetic foot care services, identifying gaps, and analyzing patient referral trends.
2. Unit Establishment: Establishing multidisciplinary diabetic foot units in selected hospitals, equipped with appropriate staffing, infrastructure, and resources.
3. Protocol Development: Developing standardized clinical pathways for assessment, treatment, and referral, aligned with AQUAS 2019 guidelines.
4. Training & Capacity Building: Delivering workshops and training programs to enhance healthcare professionals' skills in diabetic foot management.
5. Monitoring & Evaluation: Implementing key performance indicators (KPIs) to monitor patient outcomes, service utilization, and reductions in amputation rates.

Results

Preliminary data indicate a high burden of diabetic foot complications across XHG, with significant variability in patient access to specialized care. Key findings include:

1. Hospital care predominantly addresses active diabetic foot ulcers (DFUs) rather than preventive measures.
2. A single multidisciplinary unit at Trueta Hospital exists, but its capacity falls short of meeting regional demands.
3. Referral pathways between primary care, emergency departments, and vascular surgery services are inconsistent, with no shared protocols for managing this condition.
4. Access to essential services – such as podiatry, advanced wound care, revascularization, and surgical interventions like orthopaedic surgery for Charcot foot – remains limited in most hospitals.
5. Initial pilot programs have received positive feedback, underscoring the importance of structured multidisciplinary collaboration.
6. Local interdisciplinary leaders with a shared vision have been identified, offering potential for advancing care in this field.
7. The current model of care lacks the patient's perspective, and there is no evaluation of patient satisfaction either.

These findings highlight critical gaps in care delivery and the urgent need for systemic improvements to address the growing burden of diabetic foot complications.

Conclusion

Developing a network of multidisciplinary diabetic foot units in Girona represents a strategic initiative designed to enhance diabetic foot care by standardizing protocols, fostering collaboration, and ensuring equitable access to specialized services. The long-term success of this project hinges on effective collaboration between healthcare providers and policymakers. This partnership will address key requirements, such as enabling professional mobility within the network, committing to necessary organizational changes, and fulfilling structural and training needs at each participating institution. Implementation of this initiative is expected to yield significant benefits, including improved patient outcomes, reduced amputation rates, and more efficient use of healthcare resources. Looking ahead, the project aims to expand the network to all hospitals in Girona, incorporate telemedicine for remote consultations, and promote research initiatives to advance diabetic foot management practices. By prioritizing collaboration, innovation, and accessibility, this initiative has the potential to transform diabetic foot care in the region, setting a benchmark for similar efforts elsewhere.

Conflicts of interest related to this abstract: None

P-2018**Care Governance at Geneva University Hospitals: A Strategic Reform to Meet Evolving Healthcare Needs**

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HUG, Switzerland

Introduction

The dynamic healthcare landscape, both externally and within the HUG, has led the Care Directorate to reassess its governance structure. Externally, increasing psychological distress (affecting 18% of the population), a rise in chronic diseases (impacting one-third of the Swiss population), and demographic shifts necessitate a proactive and adaptive healthcare approach. Efficient cost management requires continuous optimization of care processes while maintaining high-quality standards, and the rapid advancement of knowledge demands swift adaptation to emerging scientific evidence. Furthermore, workforce shortages, escalating workloads, and growing moral distress among healthcare professionals underscore the urgency of structural reforms. Internally, an aging leadership workforce (31.1% of nurse managers over 55) underscores the imperative to train the future leaders. Moreover, the current organizational model, separating the managerial and clinical pathways, hinders daily collaboration, making the governance structure suboptimal.

Aim/Objective(s)

This project aims to enhance the integration of managerial and clinical pathways while strengthening the clinical pathway to facilitate the implementation of evidence-based care and improve adaptability to the evolving healthcare environment.

Methods

To develop the new governance structure, a multi-faceted approach was implemented, including benchmarking with other Swiss hospitals, a comprehensive literature review, and extensive internal consultations with nursing and allied healthcare managers and clinical leaders. Additionally, surveys were conducted among clinicians and managers to collect insights. These strategies facilitated the formulation of a rationale for change and the establishment of a new governance model.

Results

The consultations highlighted the need for greater collaboration between management and clinical expertise, with a strong preference for implementing paired management-clinical leadership at all hierarchical levels. However, a survey conducted among 132 management executives revealed that 74.2% wished to collaborate with a clinical expert or an advanced practice nurse. In contrast, among the 48 clinical experts surveyed, 62.5% preferred direct affiliation with the Care Directorate. Additionally, the findings indicated a limited understanding of the various clinical roles available in Switzerland. These insights prompted a structured project management approach to ensure effective implementation. The initial steps are underway and include: (a) disseminating information about the project and clinical roles to all stakeholders, (b) conducting a thorough context analysis using the CFIR 3.0 model in local settings, (c) defining functional principles, (d) adopting a participatory approach to clarify roles and responsibilities, and (e) providing structured support to departments through two change champions – a manager and an advanced practice nurse.

Conclusion

We aim to develop an efficient leadership structure that enables non-medical healthcare providers to actively contribute to the

development of agile, state-of-the-art care processes. Establishing this new governance model requires extensive dialogue, debate, and discussion to foster a shared understanding. Moreover, meaningful collaboration depends on reciprocal engagement between clinical experts and managers. This model represents a significant cultural shift, in which managers share leadership responsibilities.

Conflicts of interest related to this abstract: none

P-2019**Challenges and opportunities in implementing Cardio-Oncology Service at a philanthropic Hospital in Belo Horizonte, Brazil**

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San Francisco of Assis Hospital Foundation, Brazil

Introduction

The interplay between cancer and cardiovascular disease (CVD) has gained prominence, leading to the establishment of a subspecialty known as Cardio-Oncology. Cardiotoxicity, defined as cardiac damage resulting from cancer therapies, complicates patient management. This relationship is multifactorial, as both conditions share modifiable risk factors such as obesity, diabetes, hypertension, and dyslipidemia, alongside pro-inflammatory genetic predispositions, creating a bidirectional risk landscape. Despite the increasing incidence of cancer and CVD, which are leading causes of mortality in Brazil and globally, the number of specialists trained in Cardio-Oncology remains insufficient. Studies indicate that oncologists and cardiologists often feel ill-equipped to address cardiotoxicity. Additionally, the absence of Cardio-Oncology services in SUS facilities underscores a critical gap in public health, as these services are not mandated in accredited oncology programs. In Belo Horizonte, SUS accredited oncology services do not yet have a consolidated cardio-oncology service.

Aim/Objective(s)

A comprehensive PubMed review indicates a wealth of resources on Cardio-Oncology services in developed nations. In contrast, Latin America experiences a significant deficit due to limited financial investment in this field. Notably, Brazil and Argentina have established reference services for over a decade, with the Cardio-Oncology Service at the São Paulo State Cancer Institute (ICESP) serving as a model since 2011. This study aims to document the pioneering efforts to establish a Cardio-Oncology Service within the SUS network in Belo Horizonte. This initiative addresses the challenges posed by resource constraints, focusing on the management of CVD in cancer patients to ensure that cardiovascular issues do not impede effective cancer treatment, adhering to both national and international clinical guidelines.

Methods

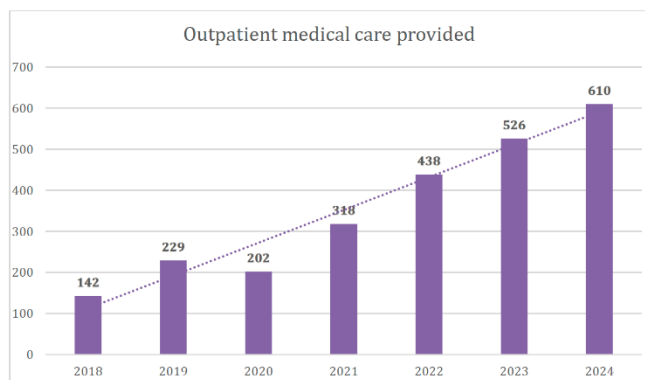
This is a descriptive study of a qualitative nature, in the form of an experience report. In 2018, a cardiologist undertaking an echocardiography fellowship at the foundation completed an internship of Cardio-Oncology at ICESP, initiating outpatient care for patients with concurrent cancer and CVD. In 2022, she obtained certification from the International Cardio-Oncology Society (ICOS) following her postgraduate training. Oncologists began to refer patients indiscriminately, including those at high risk, low risk of cardiotoxicity, and those with established car-

diotoxicity. Increased patient demand led to appointment delays, hindering timely cancer treatments. Due to financial constraints preventing team expansion, a nurse navigator position was created. Care protocols and a cardiotoxicity risk classification were implemented, and since March 2023, these patients have been navigated through a structured care flowchart. Monthly discussions involving the medical team, nursing staff, and management ensure continuous improvement, while quarterly meetings with senior management focus on key performance indicators.

Results

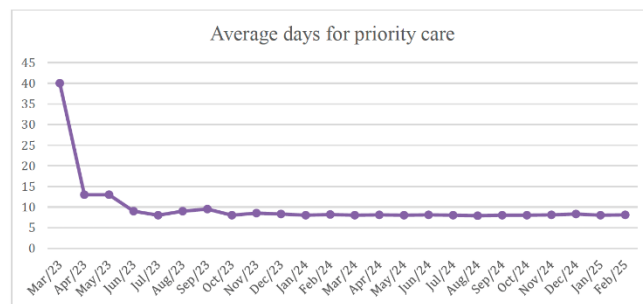
Over seven years, the Cardio-Oncology Service has seen a fourfold increase in patient visits, with the exception of 2020 due to the COVID-19 pandemic. In 2022, demand reached maximum capacity, but patient visits continued to increase in 2023 following the implementation of a multidisciplinary approach between a doctor and a nurse navigator (Figure 1). Since the formalization of the service in March 2023, timely cardiology appointments have been guaranteed for cardio-oncology patients, achieving an appointment schedule in less than 15 days for priority cases (Figure 2). In addition, patients with compensated cardiovascular comorbidities who receive specialized monitoring showed a low rate of cardiotoxicity compared to the expected results. According to ICOS literature, cardiotoxicity rates for high-risk patients range from 10% to 19% (Figure 3). Notably, the service reported a cardiotoxicity rate of just 4.2% among 281 patients monitored from March 2023 to February 2025, despite a demographic profile skewed towards elderly, hypertensive, diabetic and cardiac patients (Table 1). The most common type of cancer was breast cancer (Figure 4), and the most frequently prescribed treatment leading to referral was hormonal therapies (Figure 5). Collaboration with the cardiology residency is also facilitated through internships and lectures, disseminating knowledge in the field.

Figure 1- Number of outpatients medical care seen per year provided by the Cardio-Oncology Service from 2018 to 2024



Source: The authors

Figure 2: Mean days to first priority consultation in the Cardio-Oncology Service (calculated from date of request) between March 2023 and February 2025



Source: The authors

Figure 3 - Cardiotoxicity rate according to the baseline stratification proposed by HFA-ICOS

Cardiotoxicity rate by HFA-ICOS

Low risk	< 2%
Medium risk	2 – 9%
High risk	10 – 19%
Very high risk	≥ 20%

Source: adapted from A.R. Lyon et al. European Journal of Heart Failure (2020) 22, 1945–1960

Table 1 – Epidemiological profile of patients navigated in the Cardio-Oncology Service from March 2023 to February 2025. N=281.

Comorbidities	N	(%)
Hypertension	204	(72.5%)
Diabetes	128	(45.5%)
Congestive heart failure	100	(35.5%)
Coronary artery disease	56	(20%)
Chronic kidney disease	29	(10%)
Smoking	22	(8%)
Age over 65 years	127	(45%)
Female	140	(50%)

Source: The authors

Conclusion

The establishment of a Cardio-Oncology Service with navigation for patients with concurrent cancer and cardiovascular disease represents a significant advancement in both institutional and local healthcare. This service has markedly improved the quality and safety of patient care for those undergoing cancer treatment. Despite its modest scale and low operational costs, the Cardio-Oncology Service effectively manages all oncology inter-consultations according to established protocols. Collaborative efforts among a specialized cardiologist, oncologist, nurse navigator, oncology coordinator, and multidisciplinary teams have developed effective strategies to meet the needs of cancer patients with cardiovascular comorbidities, addressing a critical public health gap. However, the service faces limitations, including a small patient cohort and limited staffing, which impede expansion. A recently approved grant from the Elderly Fund aims to enhance care by adding an additional cardiologist and nurse navigator to actively identify elderly cancer patients at high cardiovascular risk. This initiative will support new research with a larger patient population. It is hoped that this model will inspire the establishment of similar services within the Unified Health System (SUS) across Brazil and globally, ultimately improving care for these prevalent and life-threatening conditions.

Conflicts of interest related to this abstract: None

P-2020

Clinical Pathway (CP) Development and Advancement Activities at Asan Medical Center, Seoul

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Introduction

At Asan Medical Center, Clinical Pathways (CPs) have been developed to standardize clinical care processes, ensuring high-quality, evidence-based treatment while optimizing hospital resources. CPs have been shown to reduce costs, prevent complications, and lower mortality and readmission rates.

As a result, CP development has been actively pursued by identifying areas requiring standardization, particularly within departments frequently performing without established CPs. Additionally, for procedures performed across multiple departments with varying prescriptions, advanced CPs were developed to integrate and unify practices.

1) A list of CPs for development was identified by analyzing treatment processes for frequently performed surgeries and procedures from 2023 to 2024. Representative surgeries and procedures included:

- Neurosurgery(NS): Resection, brain tumor excision
- Hepatobiliary(HBP): Distal pancreatectomy, partial splenectomy
- Anesthesiology(ANS): Neuroplasty

2) ERCP(Endoscopic Retrograde Cholangiopancreatography) is a frequently performed procedure across multiple departments, with 500 to 550 cases per month. Performed by Gastroenterology, Liver Transplantation/ Hepatobiliary Surgery departments.

Aim/Objective(s)**1. Problem Analysis**

A list of CPs for development was identified by analyzing treatment processes for frequently performed surgeries and procedures from 2023 to 2024.

- NS: Resection, brain tumor excision
- HBP: Distal pancreatectomy, partial splenectomy
- ANS: Neuroplasty

The analysis covered prophylactic antibiotics, medications, diagnostic tests, and essential prescriptions. Input was gathered from physicians and nurses involved in the treatment process. When prescription variations existed across departments for the same procedure, the procedural steps and prescription protocols were analyzed to determine standardization feasibility.

- ERCP (Endoscopic Retrograde Cholangiopancreatography): The analysis focused on standardizing antibiotics, painkillers, intravenous fluids, diagnostic tests, prescriptions, and nursing practices across departments.

2. Main Indicators and Objectives

Main Indicator: CP application rate for hospitalized patients.

- Duration of antibiotic use, drug return rate, and hospital stay length before and after CP implementation for frequent surgeries.

Objective: Develop, implement, and refine CPs for frequent surgeries and procedures.

Methods

1. CPs were developed and sequentially implemented from February 2023 to February 2024. Inefficiencies treatment process and prescriptions were addressed through collaboration with

NS, HBP, and ANS physicians, ward head nurses, the PI team, and CP subcommittees.

1) Standardization of Prophylactic Antibiotic Prescriptions(ANS, HBP)

2) Standardization of Non-Antibiotic Prescriptions (Common)

CP standardization included:

- Unification of drug types, dosages, and administration schedules.
 - Adjustments to overlapping drug prescriptions.
 - Optimization of prescriptions to reduce unnecessary medications.
- 3) Standardization of Required/Action Prescriptions (Common)
- Standardized post-surgical dietary guidelines and test timing.
 - Clarified prescription comments for improved communication.

2. ERCP Standardization

To standardize ERCP, a unified CP was developed and implemented in November 2024 through collaboration with medical professors, ward head nurses, professional nurses, the PI team, and CP subcommittees.

1) Antibiotic Standardization

2) Standardization of Non-Antibiotic Medications

3) Additionally, fluid administration, diagnostic tests, and prescription comments were standardized.

3. Regular CP Progress Monitoring**Results****AMC Overall CP Application Rate**

- Following the implementation of CPs for frequent surgeries and ERCP standardization, the CP application rate for hospitalized patients at AMC increased by 4.0%:
- Before CP application (January 2023): 31.2%
- After CP application (December 2024): 35.2%

Department-Specific Outcomes**NS**

- Post-CP implementation (May–July 2024), hospital stays were shortened by 0.9 to 1.9 days compared with the pre-CP period (May–July 2023).
- -Drug return rate increased by 0.4%.

HBP: Previously, prophylactic antibiotics were prescribed for four days post-surgery. Following recommendations from the Antimicrobial Drug Management Committee, this was reduced to one day

- The duration of antibiotic prescriptions decreased by 1.2 to 2.0 days after CP implementation (March–May 2023) compared with pre-CP (March–May 2022).

ANS: Various prophylactic antibiotics were previously prescribed by different physicians. These were standardized to Cefazolin, and discharge antibiotics were eliminated based on recommendations.

- -Drug return rate decreased by 7.3% after CP application (August–October 2023) compared with before (August–October 2022).

ERCP Outcomes

- Following the Antimicrobial Management Committee's recommendation, all departments standardized antibiotic use to Flumoxine.
- Gabexate mesylate was added to prevent pancreatitis.
- Post-procedure pain management was standardized as follows: Tramadol [50mg], Pethidine [25mg]
- Gastric protective agents were standardized to: Gaster [20mg]

Conclusion

By developing CPs for frequently performed surgeries and procedures without prior standardization, AMC successfully:

- Standardized treatment processes.
- Improved antibiotic use and prescribing practices without compromising treatment outcomes.
- Reduced hospital stay durations and enhanced efficiency by lowering drug return rates.

Future Plans:

- The effectiveness of the ERCP CP will be evaluated three months post-implementation.
- Given the critical role of accurate prescriptions in patient safety, AMC will continue to develop high-quality, evidence-based CP guidelines.
- CP order sets will be updated by:
 - Monitoring CP application rates.
 - Tracking prescription variation trends.
 - Incorporating the latest medical knowledge.

Conflicts of interest related to this abstract: None

P-2021

Collaboration between Hospital Geriatrician with Nursing Home via the Nursing Home Supportive Care Plus initiative: A mixed-methods evaluation.

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Introduction

Providing specialist consultation to Nursing Homes (NHs) is a common practice in many healthcare systems. Since 2014, the Singapore Regional Health Systems, including NHG, have been building NHs' capability in managing end-of-life care with the Ministry of Health's support. While positive outcomes were reported, not all NH residents are at the stage of receiving palliative care, but yet are frail and frequent utilisers of acute resources. In WHC, we extended care beyond the palliative scope under an initiative known as Nursing Home Supportive Care Plus (NHSC+) where a team of Geriatricians provided in-situ medical consultation for frail elderly residents from Ren Ci Woodlands Nursing Home (RCWNH). The aims were to reduce hospitalisation, consolidate specialist outpatient appointments, reduce polypharmacy, optimise medical conditions, initiate Advance Care Planning discussions, and provide education for NH staff. Consultations in the NH were done collaboratively through weekly Case Management Meetings (CMMs) and in-person consultations if needed.

Aim/Objective(s)

This project aimed to evaluate the processes and outcomes of the NHSC+ pilot with RCWNH, in view of extending the model of care to more NHs in the region if the results were favourable. The objectives were to study 1) the quality of care interventions provided via NHSC+, 2) NH staff satisfaction, and 3) return on investment of the initiative.

Methods

A post-test only non-equivalent group design using another Ren Ci NH as comparator was chosen, as baseline data was unavailable for the new RCWNH. Using a mixed-methods approach, we analysed the administrative data from 1 Apr to 18 Nov 2024 of 218 RCWNH residents and 89 comparator NH residents, and survey responses from 30 RCWNH staff. Key measures were 1) hospital utilisation: Emergency Department (ED) attendances, Specialist Outpatient Clinic (SOC) visits, and the risk of hospital versus NH death; 2) the impact of care rationalisation: medication deprescribing, and consolidation of

outpatient appointments; 3) perceived benefits to residents and NH staff; and 4) economic impact. Descriptive and inferential statistical analysis of quantitative administrative and survey data were performed in STATA18. Open-ended survey responses were analysed qualitatively, using thematic analysis methodology. Three cases studies were included to describe outcomes within the real-life context. Findings were integrated using both complementary and supplementary approaches.

Results

181 unique residents were discussed at CMMs. Of which, 48% had behavioural issues and 4% had ≥ 3 discussions; 43% had medications deprescribed; 54% had unnecessary SOC appointments cancelled and care transferred to RCWNH ($n = 158$); 13% residents had SOC follow-ups transferred to the co-located hospital WHC ($n = 30$). RCWNH residents contributed to 90 WHC acute admissions and 579 bed-days during the evaluation period, including 19 readmissions (all-causes) within 30-days. Using multivariate analysis, RCWNH residents (non-palliative) had 3.89 times higher risk of ED attendance (IRR: 4.89, 95% CI: 2.13-11.26) but 64% lower risk of SOC visits (IRR: 0.36, 95% CI: 0.24-0.53) compared to residents from comparator NH. Residents of RCWNH also had 47% less risk of hospital death. Positive economic outcomes were reported at resident/next-of-kin, NH, hospital and systems levels. Direct cost-savings from appointment cancellations and transfer of care alone amounted to an estimated SGD27,000 net benefit after excluding programme costs during the evaluation period. 100% of staff respondents felt supported by the collaboration, with >90% perceiving benefits to staff, >90% perceiving benefits to residents, and 83% perceiving improvements in residents' behaviours. Emerging themes converged to the Quadruple Aim of Healthcare: improved patient experience, better outcomes, improved clinician experience and lower cost.

Conclusion

In conclusion, the NHSC+ collaboration with RCWNH had various positive outcomes especially in SOC appointments and medications reconciliation, staff satisfaction and positive economic impact at various levels. Although ED attendances were higher in RCWNH compared to the comparator NH, this can be explained by the fact that RCWNH was a new NH and studies have shown that newly operationalized NHs may face an increased hospitalization rate due to various reasons arising from the care transition. The current initiative proved to be an effective approach for multidisciplinary co-management of care in-situ that brings added value to residents in NHs. More efforts need to be carried out to identify the reasons for high hospitalization rate of RCWNH so that strategies can be put in place to mitigate this issue. There is potential and also a need to shift towards the longer term goal of enhancing NH's internal capabilities to effectively manage most care needs within the NH and reduce the threshold for hospital referrals.

Conflicts of interest related to this abstract: None

P-2022**Continuous Improvement of Stroke Thrombolysis at Ibrahim bin Hamad Obaidullah Hospital: A 7-Year Journey of Optimization and Outcomes**

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Introduction

Intravenous thrombolysis (IVT) with recombinant tissue plasminogen activator (rt-PA) remains the cornerstone of acute ischemic stroke (AIS) management, offering a crucial therapeutic window to restore cerebral perfusion and improve functional outcomes. Timely administration of IVT has been shown to significantly reduce disability and mortality, emphasizing the importance of continuous quality improvement in stroke care. Despite well-established guidelines, real-world challenges such as delayed door-to-needle times and underutilization of thrombolytic therapy persist. Initiatives with stroke protocols, quality control and multidisciplinary plans were started in Ibrahim bin Hamad Obaidullah hospital to improve stroke thrombolytic therapy. This study evaluates the sustained efforts to enhance IVT administration for AIS over a seven-year period at Ibrahim Bin Hamad Obaidullah Hospital, focusing on increasing thrombolysis rates, reducing treatment delays, and optimizing patient outcomes.

Aim/Objective(s)

to evaluate the sustainability of improvement in intravenous thrombolysis administration for acute ischemic stroke at Ibrahim Bin Hamad Obaidullah Hospital over a seven-year period from 2018- 2024. Specifically, it seeks to assess the trends in thrombolysis utilization, improvements in door-to-needle time, and the proportion of patients receiving thrombolysis within the recommended time frame. By analyzing these parameters, the study aims to highlight the impact of systematic stroke care enhancements on patient outcomes.

Materials and Methods:

This retrospective observational study reviewed all cases of acute ischemic stroke (AIS) admitted to Ibrahim Bin Hamad Obaidullah Hospital from January 2017 to December 2024. Patients were identified using hospital records based on a principal diagnosis of AIS. Data were collected from electronic medical records, including patient demographics, stroke severity, and treatment details. The primary outcomes analyzed were the rate of intravenous thrombolysis (IVT) utilization and door-to-needle (DTN) time, which were calculated and compared on a yearly basis. Thrombolysis rates were expressed as the proportion of eligible AIS patients who received IVT. DTN time, defined as the interval between patient arrival at the emergency department and the administration of thrombolytic therapy, was assessed to evaluate efficiency improvements.

The odds ratio (OR) and p-value were determined to assess the statistical significance of thrombolysis rate improvements over the study period.

Results

A total of 1,195 patients with acute ischemic stroke were included, with 226 receiving intravenous thrombolysis (IVT). Thrombolysis rates increased significantly from 3.4% in 2017 to 34.6% in 2024, reflecting a nearly tenfold improvement. The door-to-needle (DTN) time improved markedly, decreasing from 116 minutes in 2017 to 54 minutes in 2024. The proportion of patients receiving IVT within 60 minutes showed a substantial increase, from 0% in 2017 to 71% in 2024. Annual data

demonstrated progressive enhancements, with thrombolysis rates steadily rising, particularly between 2018 (11.1%) and 2020 (22.4%), and peaking in 2024 (34.6%). DTN time significantly dropped early in the study period, reaching 39 minutes in 2021, with a slight fluctuation in later years. The proportion of patients treated within 60 minutes peaked at 83% in 2019, maintaining high levels in subsequent years. These results highlight sustained quality improvements in stroke thrombolysis, demonstrating the impact of structured stroke protocols, workflow optimizations, and team-based interventions in achieving faster and more effective stroke treatment.

Conclusion

This study demonstrates a significant and sustained improvement in the administration of intravenous thrombolysis for acute ischemic stroke over a seven-year period at Ibrahim Bin Hamad Obaidullah Hospital. The thrombolysis rate increased tenfold, while door-to-needle time was reduced by more than half, reflecting enhanced efficiency in stroke management. Notably, the proportion of patients receiving thrombolysis within the gold-standard 60-minute window rose from 0% in 2017 to 71% in 2024, highlighting the effectiveness of quality improvement initiatives. These advancements can be attributed to structured stroke protocols, streamlined workflows, rapid stroke team activation, and continuous staff training. The findings emphasize the importance of ongoing optimization in acute stroke care, which can lead to better patient outcomes and serve as a model for other institutions aiming to improve stroke thrombolysis delivery.

Conflicts of interest related to this abstract: No conflict of interest

P-2023**Continuous Improvement Project – Creation of a Dedicated Ambulatory Heart Failure Unit**

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Introduction

The project was born out of the need to establish continuous and close monitoring for patients with heart failure (HF). Despite the increasing burden of HF in Portugal, the current healthcare system faces challenges in managing the condition due to limited availability of multidisciplinary care teams. This limitation affects early intervention, symptom control, and patient education. To address the rising incidence of HF, this project aimed to improve the quality of patient care by establishing a dedicated outpatient unit for HF. The project team includes three cardiologists, a nurse, a hospital manager and two external engineers from Lean Health Portugal. By using lean methodology, the team was fully involved from the beginning with weekly meetings to develop the work, distribute specific tasks and define the next steps.

Aim/Objective(s)

The primary focus of this project is to improve patient care for heart failure by establishing a dedicated outpatient unit, ensuring continuous and accessible healthcare. The creation of this unit ensures patient-centered care, reducing patients' length of stay in hospitals by minimizing emergency visits and hospitalizations through proactive disease management. In parallel, efforts are directed towards fostering a multidisciplinary approach, involving cardiologists, nurses, and other healthcare professionals to enhance the patient journey. This approach aims to improve coordination and collaboration across different levels of care, whether from referral origins such as hospitali-

zation, emergency, or internal referrals. In terms of specific objectives, the project focuses on reducing hospital admissions and emergency episodes by implementing standardized processes. Additionally, the project focuses on preventing complications and educating patients, empowering them to manage their condition more effectively and improve their quality of life.

Methods

Starting with a problem identification as an improvement opportunity, the project follows the PDCA Cycle from Lean methodology. In the Plan phase, the team diagnoses the current problem through observations and interviews with healthcare professionals. Based on these insights the team maps the current workflows, identifies workflow issues, defines the specific objectives and the indicators. In this phase, we also analyze current data (hospitalizations, emergency episodes), and develop solution proposals and action steps: designing new workflows based on referral origins, defining referral criteria for patient admission to the unit, identifying the treatments to be carried out in the unit, designing the unit's operational scenarios (schedule, number of professionals, treatment stations, capacity), creating a dedicated multidisciplinary team, designing the patient pathways on treatment days, defining the scheduling methods, and analyzing required equipment and resources. Once the plan phase is concluded, The Do phase implements operations, Check evaluates results, Act takes actions.

Results

The data collection includes data from March 2023 to December 2024 and the dedicated ambulatory heart failure unit started its activity on March 2023. Comparing the results from the first three months after unit's opening to the last three months of 2024, it is possible to conclude that the number of emergency episodes due to heart failure decreased by 17%. Additionally, the number of hospitalizations episodes decreased by 25%. In parallel the number of admissions to the unit increased by 25% in the same period. Furthermore, the time interval between emergency episodes has been increasing since the unit's creation, and there has been a reduction in the number of recurrent visits to the emergency department as well as in hospitalization episodes. Regarding the number of patients, in the last three months of 2024, there was a 17% increase in the number of individuals attending the unit. At the same time, the number of patients requiring hospitalization and emergency care decreased by 23% and 5%, respectively. The establishment of the dedicated ambulatory heart failure unit has led to fewer recurrent emergency visits, reduced hospitalizations, and increased day hospital attendance, contributing to more effective management and improved monitoring of the condition.

Conclusion

The creation of the dedicated ambulatory heart failure unit has demonstrated significant positive outcomes in terms of patient care and healthcare system efficiency. By focusing on continuous monitoring and proactive disease management, the unit has successfully reduced the frequency of emergency episodes and hospitalizations, contributing to a more effective and sustainable healthcare model. The 17% decrease in emergency episodes and 25% reduction in hospitalizations, alongside a 25% increase in admissions to the unit, reflect its success in addressing patient needs. Furthermore, the time between emergency episodes has increased, reinforcing the unit's role in long-term patient management. These results highlight the value of a multidisciplinary approach and Lean methodology in improving patient outcomes. In parallel, the reduction of emergency and hospitalization episodes has alleviated pressure on these services and healthcare teams. The definition of structured workflows have also improved efficiency, creating better

conditions for healthcare professionals and enabling closer patient follow-up. By integrating a proactive approach, this model enhances disease management, promotes patient autonomy, and contributes to a better quality of life. The success of this project reinforces the importance of continuous monitoring and multidisciplinary collaboration in optimizing heart failure care, offering a sustainable solution for patients and the healthcare system.

Conflicts of interest related to this abstract: None

P-2024

Cost-effectiveness of locoregional therapy for hepatocellular carcinoma in patients on the transplant waiting list, a health system perspective

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Introduction

Cancer is increasing worldwide, and hepatocellular carcinoma (HCC) is the most common malignancy of the liver. It occurs most commonly in people with cirrhosis and presents in advanced stages. It is the fifth most common cancer and the second most common cause of cancer-related deaths worldwide. There are around 854,000 new cases and 810,000 deaths each year and it represents 7% of all cancer worldwide. The epidemiological burden of chronic liver disease is increasing due to the increasing prevalence of end-stage hepatocellular carcinoma, nonalcoholic fatty liver disease, and hepatitis C. HCC accounts for more than 90% of primary cancer, and liver transplantation (LT) is the curative option for patients who meet the transplantability criteria; however, due to the limited availability of organs, patients enter waiting lists where they benefit from therapies to control tumors.

Aim/Objective(s)

To determine the cost-effectiveness of radio frequency ablation (RFA), microwave ablation (MWA), transarterial chemoembolization (TACE), and stereotactic body radiotherapy (SBRT) in patients with hepatocellular carcinoma (HCC) according to the Milan criteria who are awaiting liver transplant from the perspective of the health system

Methods

Cost-effective analysis from the perspective of the health system was based on a decision tree model. This study was based on the identification of the direct medical costs of each therapy. The target population is patients diagnosed with hepatocellular carcinoma, who meet the Milan criteria (a single tumor less than 5 cm or 2-3 tumors less than 3 cm) and who are on the waiting list for liver transplant. The disease course and probabilities of treatment outcomes (effectiveness, complications) were derived from the literature. Results include dollar costs. The cost-effectiveness analysis was expressed as an incremental cost-effectiveness ratio. A deterministic sensitivity analysis and a probabilistic sensitivity analysis were performed to assess the robustness of the findings. The time horizon was 1 year so no discount rate was applied.

Results

By conducting the cost-effectiveness analysis with the decision tree model, no differences were obtained in the ICER between the RFA and the MWA compared to the transplantability criterion of patients with hepatocellular carcinoma who are on the waiting list. SBRT and TACE presented differences regarding cost and effectiveness, the ICER of SBRT was -59,516.62 and of

TACE – 1,012,647.34 compared to RFA. Although a formal stratified analysis based on tumor size and number of lesions was not performed due to the paucity of data from literature studies, the results of the sensitivity analysis suggest that RFA and MWA are the most cost-effective alternatives compared to others. therapies (TACE, SBRT and RFA). Using probabilistic Monte Carlo sensitivity analysis, RFA was determined to be the dominant alternative at all levels of willingness to pay. TACE is the dominated alternative with respect to effectiveness and costs.

Conclusion

There are no significant differences between RFA and MWA, however, they are the most cost-effective, which favors their prioritization as a bridging therapy for tumor control in patients with HCC. These results are the first effort to guide the clinical and budgetary decisions that must be made by the different actors in the Colombian health system. At the national level, no economic assessments to compare these therapies have been done. However, in the international context there are studies about the cost-effectiveness of MWA versus that of other therapies to treat other oncological pathologies or versus other therapies such as liver resection, in which it also turns out to be the most cost-effective. SBRT is an emerging treatment alternative and, although some research studies have been conducted, more clinical studies and economic evaluations are required to analyze the use of therapies and their benefits in patients with HCC who meet transplantability criteria.

Conflicts of interest related to this abstract: None

P-2025

COVID 19 Outcomes: Prevalence of Post-COVID Syndrome Among Clinically Recovered Healthcare Workers in a Tertiary Government Hospital

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Introduction

Since the outbreak of the most recent COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2 in December 2019, several global health issues have surfaced. Post-recovery, many patients have described to have persistent symptoms and the need to evaluate clinical outcomes have yet to be fully established. As the region's general tertiary medical institution, VSMC has been the end-referral center of primary care for COVID-19 patients in Central Visayas of Philippines. The rise of infections have not only affected the general population but at the same time, the health care team that had single-handedly taken care of the patients. Knowing the clinical outcomes & prevalence of post-COVID syndrome among recovered patients will pave way in establishing multidisciplinary approach to address COVID 19 treatment & aftercare. Research on the area will lead to new discussions on the evaluation of changes for the management of the infection to minimize the outcomes of post-COVID syndrome.

Aim/Objective(s)

The main objective of this research study was to determine the prevalence of post-COVID signs and symptoms among clinically recovered health care workers of Vicente Sotto Memorial Medical Center from June-August 2021. Specifically, it aimed to achieve the following: Describe the clinico-demographic profile of health care workers infected with COVID-19 infection in terms of:

- 1.1 Age
- 1.2 Gender
- 1.3 Nature of Work

1.4 Lifestyle habits

1.5 Co-morbidities

1.6 Vaccination status

1.7 Severity of COVID infection

1.8 Treatment received on acute infection

1.9 Place of isolation

- To determine the prevalence of post-COVID syndrome among health care workers of VSMC
- To compare the proportion and characteristics of healthcare workers who had COVID-19 infection who experienced the post-COVID syndromes from those who did not have any

Methods

Ninety-six respondents were analyzed in this descriptive cross-sectional study. Due to the poor health-seeking behaviors of discharged patients who have suffered from the infection admitted at VSMC, the study population included all healthcare workers instead who had COVID 19 during the 3rd outbreak of the infection from June-August 2021, diagnosed thru Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) testing using nasopharyngeal & oropharyngeal swab samples from the COVID-19 testing centers accredited by the Department of Health of the Philippines. The sample size was computed using Cochran's formula for sample size computation at 95% confidence level. A structured data collection form, approved by the institution's Research Institute & Research Ethics Committee, was used in order to gather data from the respondents. Independent T-test and Chi-square test were utilized to determine the difference in proportion of those who had experienced the syndromes from those who did not have at 0.05% level of significance.

Results

Local data obtained from this study showed that majority of the respondents have symptoms attributed to previous infection with COVID, with 92.7% of the population from the medical department [Table 1]. All of the respondents were swab positive and majority were classified as asymptomatic to mild cases (77.1%) in terms of infection severity & does not require for urgent hospital care, mostly on home isolation (42.7%) or in isolation facilities (41.7%) only. Significant findings have shown that prevalence of post-COVID symptoms were seen even in young medical health care workers who are not even on severe or critical state prior the infection with only a fraction of the respondents having known comorbidities such as hypertension (10%), DM (6%) and BA (15%) [Table 2]. It should also be noted that a majority of the respondents were only under on supportive care & management during the acute phase of the disease. Despite the majority of the respondents have asymptomatic to moderate infections only, symptom presentations of the Post-COVID condition were varied & approximately half of the respondents have experienced lingering symptoms. Cough (58.3%), fatigue (48.9%), altered taste or smell (56.25%), intermittent fever (43.75%) & headache (40.6%) were among the most common complaints of patients [Table 3].

Conclusion

As the pandemic came in control with the current scientific prevention and control measures, we are now face with the new medical dilemma on the long-term consequences of COVID infection. As prevalence of symptoms were high even in this subset of non-critical population as reflected in the study – with variety of symptoms noted from respiratory to neurocognitive to psychiatric conditions, recovery might be even more challenging for those patients who were hospitalized as critically ill patients. Monitoring the incidence of post-infectious COVID-19 can help us predict the clinical results and aftercare of patients

from both the acute and long-term consequences and encourage creation of multidisciplinary approaches in its primary and preventive care.

With the local data gathered from this study, following policy implications were considered:

1. Public awareness and health promotion
2. Provision of comprehensive care
3. Partnership and collaboration for National Studies

Thru this study, after presenting in Research Pitch to Policy Contest during the institution's Medicine Week 2024 held last September 26, 2024 at the VSMMC Auditorium, the researcher was able to discuss to the hospital's health board regarding changes to be adapted in emergency and outpatient department of the said institution.

Conflicts of interest related to this abstract: None

P-2026

Creating a Leadership-Led Patient Safety Culture: Patient Safety Improvement Through Leadership Patient Safety Walkrounds (LPSW)

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Introduction

Leadership engagement is essential for fostering a strong patient safety culture. Leadership Patient Safety Walkrounds (LPSW) offers a structured approach to demonstrating leadership commitment, improving communication, and gathering frontline feedback on patient safety concerns. An analysis of patient safety incidents from 2021–2022 identified recurring issues in unintended retention of foreign objects, falls, and continuity of care. Root cause analyses revealed that 52.9% of these incidents were linked to leadership-related factors, such as inadequate patient safety culture, non-adherence to protocols, and insufficient oversight. In response, 2023 LPSW was implemented to establish a leadership-driven learning culture and develop a hospital-wide framework for risk mitigation. Departments were selected based on hospital-wide quality improvement needs, major patient safety incidents, and engagement in safety assurance activities. The Operating Room, Neurosurgery, and Gastrointestinal Surgery departments were prioritized for targeted LPSW interventions to drive sustainable patient safety improvements.

Aim/Objective(s)

This initiative aimed to:

1. Strengthen leadership engagement in patient safety through increased interaction with frontline staff.
2. Implement targeted interventions addressing unintended retention of foreign objects, falls, and continuity of care.
3. Improve key patient safety indicators, including LPSW satisfaction, patient safety culture perception, and patient safety incident reporting trends.
4. Foster a leadership-driven culture through structured debriefing, follow-up actions, and systematic tracking.

Objectives:

1. LPSW satisfaction survey (assessed immediately and at 6 months).
2. Patient safety culture perception (+1 percentage point improvement from 2021).

3. Patient safety incident reporting trends (increase in reporting, reduction in severe harm cases).

Methods

LPSW followed a structured approach:

1. Department Selection: Based on hospital-wide quality improvement priorities, major patient safety incidents, and active involvement in safety initiatives.
2. Stakeholder Participation: Included department heads, quality and patient safety officers, and frontline staff.
 - Medical Staff: Department chairs, chiefs of residents, CPI faculty, clinical fellows, and resident representatives.
 - Nursing and Laboratory Staff: Senior managers, team leaders, department heads, QPS heroes.
3. Pre-roundtable discussions: The PI department reviewed key patient safety issues, analyzed incident data, and set discussion topics.
4. Leadership Patient Safety Walkrounds: Leadership engaged in on-site discussions, real-time observations, and structured debriefings.
5. Action Plan & Follow-up:
 - Post-rounding reports within 24 hours, with improvement requests sent to relevant departments.
 - Progress tracked at 1, 6, and 12 months.

Results

The 2023 LPSW cycle (Rounds 1–3) identified 22 improvement initiatives:

1. Process optimization (45.5%)
2. Infrastructure (22.7%)
3. Staffing (18.2%)
4. Education (9.1%)
5. Medical equipment (4.5%)

Key interventions:

1. Unintended retention of foreign objects: Implemented standardized postoperative X-rays, allocated radiology personnel for rapid scans, and enhanced surgical instrument inspection.
2. Falls: Introduced fall-detection belts, currently under hospital-wide evaluation.
3. Continuity of Care: Improved intra-hospital transport safety for bariatric surgery patients.

Impact Analysis:

1. LPSW Satisfaction Rates:
 - Phase 1 (One-day post-LPSW):
 - 1) Notification adequacy: 95.7%
 - 2) Session duration appropriateness: 91.3%
 - 3) Overall process evaluation: 87.0%
 - Phase 2 (Six-month post-LPSW):
 - 1) Active engagement: 63.6%
 - 2) Feedback effectiveness: 90.9%
 - 3) Overall satisfaction: 3.7/5
2. Patient Safety Culture Perception: +1.9 percentage point improvement from 2021
3. Patient Safety Incident Reporting Trends:
 - 1) Overall patient safety reports increased by 7.5%, with near-miss reports up 46.9%.
 - 2) Unintended retention of a foreign object-related near-miss was reported by 500%, while severe harm cases decreased by 40%.
 - 3) Falls-related near-miss reporting increased by 500%, with a 33.3% reduction in minor harm cases.
 - 4) Continuity of care incidents saw a 100% reduction in severe harm cases.

Conclusion

The LPSW initiative demonstrated that leadership-driven patient safety interventions yield measurable improvements in patient safety culture and risk mitigation.

Key takeaways:

1. Sustained leadership engagement fosters accountability and continuous learning.
2. Increased near-miss reporting indicates improved risk identification and proactive safety measures.
3. Structured follow-up mechanisms ensure sustained improvement and systematic learning.

Future directions include hospital-wide expansion of LPSW, integration of real-time data analytics, and adoption of high-reliability organization (HRO) principles to further embed leadership in patient safety initiatives.

Conflicts of interest related to this abstract: None

P-2027

CriticalFlow: Optimized patient allocation for targeted care

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Introduction

The intensive care of patients faces significant challenges, particularly due to a shortage of skilled nursing staff and the high costs of maintaining intensive care units. Financial incentives through Diagnosis-Related Groups (DRG) cannot be increased for longer intensive stays, resulting in increased economic risk. To enhance patient safety and minimize complication risks, the use of intensive care consultations is recommended. Additionally, the electronic implementation of an early warning score for critically ill patients aims to optimize patient monitoring. These measures aim to increase the efficiency of intensive care and improve revenue through better patient care.

Aim/Objective(s)

The primary objective of this project is to improve the allocation and management of critically ill patients in intensive care units. By implementing a systematic screening process using the National Early Warning Score (NEWS) 2, the study aims to enhance early detection of life-threatening conditions such as sepsis, acute heart failure, or pulmonary embolism. The goal is to ensure that patients receive the appropriate level of care, whether in intensive care or on a normal ward, thereby optimizing resource utilization and improving patient outcomes. Additionally, the project seeks to reduce unnecessary intensive care admissions, which can lead to increased complications and extended hospital stays, and to enhance the overall efficiency and financial performance of the hospital.

Methods

The project employs a systematic screening process using the NEWS2 score, which includes clinical variables such as respiratory rate, oxygen saturation, oxygen administration, temperature, blood pressure, heart rate, and alertness. The score is integrated into the Patient Data Management System (PDMS) to

consolidate routine parameters. Patients classified as "red" (high risk) are transferred to the intensive care unit, while those classified as "green" (low risk) remain on the normal ward. Patients with moderate risk ("yellow") are evaluated by an experienced intensivist, who provides recommendations for further diagnostics and therapy. The study also involves the implementation of a standardized algorithm for patient allocation to ensure transparent and uniform criteria for intensive care admission.

Results

The implementation of the NEWS2 score and systematic screening process has shown significant improvements in patient outcomes. Early detection and intervention for life-threatening conditions have led to a reduction in mortality rates and improved survival rates for critically ill patients. The project presents a standardized algorithm for patient allocation with the aim to reduce unnecessary intensive care admissions, leading to more efficient use of clinical resources and reduced hospital costs. Patients who remained on the normal ward with appropriate recommendations from intensivists may experience better management of their conditions while avoiding overtreatment, resulting in shorter hospital stays and fewer complications. The overall efficiency and financial performance of the hospital will improve, with optimized resource utilization and increased revenue.

Conclusion

The systematic screening and optimized allocation of critically ill patients using the NEWS2 score have proven to be effective in enhancing patient care and resource utilization. By ensuring that patients receive the appropriate level of care, the project will reduce unnecessary intensive care admissions, improve patient outcomes, and increase the efficiency and financial performance of the hospital. The implementation of this approach can be beneficial for other hospitals within the network, leading to better patient care and optimized resource management across the board. The project highlights the importance of early detection, standardized protocols, and interdisciplinary collaboration in improving the quality and efficiency of intensive care.

Conflicts of interest related to this abstract: None

P-2028

DéCLIC: Coordinated and Large-Scale Deployment of Clinical Pathways in a Multi-Site Swiss University Hospital

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Introduction

Variability in clinical practices can undermine the quality and efficiency of care delivery. Clinical pathways (CPs), grounded in best practice recommendations and tailored to the local context, offer a structured solution to standardise patient management. However, their implementation is often protracted and necessitates extensive involvement across services. As part of our hospital's strategic plan, the medical and nursing leadership have designated this project as an institutional priority. The DéCLIC programme (Déploiement Coordonné et à Large échelle

des Itinéraires Cliniques) aims to reduce this variability by strengthening interprofessional coordination and continuously enhancing the quality of care.

Aim/Objective(s)

- Develop a methodology enabling large-scale deployment of CPs, targeting all 50 clinical departments to implement at least one CP by the end of 2025.
- Sustainably involve patients in the process.
- Develop clinical indicators for each CP and ensure their on-going monitoring.
- Improve coordination among healthcare professionals and reduce inappropriate clinical variability.

Methods

A structured deployment methodology was developed, tested, and adapted, comprising several key steps (figure1):

1. Selection of the Clinical Pathway: Department heads propose a CP based on criteria such as patient volume, improvement potential, practice variability, or lack of interdepartmental/inter-professional coordination, followed by validation by medical and nursing directorates.
2. Formation of a CP Committee: Establishment of a committee led by a pair of medical and nursing leaders. A collaboration agreement is formalised, and a patient partner is included.
3. Implementation of a Five-Step Methodology:
 - Analysis of Current Practices
 - Definition of Improvement Objectives
 - Design of the Clinical Pathway
 - Implementation: Implementation of CP with team training, dissemination of support materials, and integration into IT.

- Evaluation and Adjustment: Development and monitoring of performance indicators.

Concurrently, a process mining approach was developed to model actual patient journeys using hospital information system data, allowing comparison with planned pathways established from medical recommendations (conforming-check).

Results

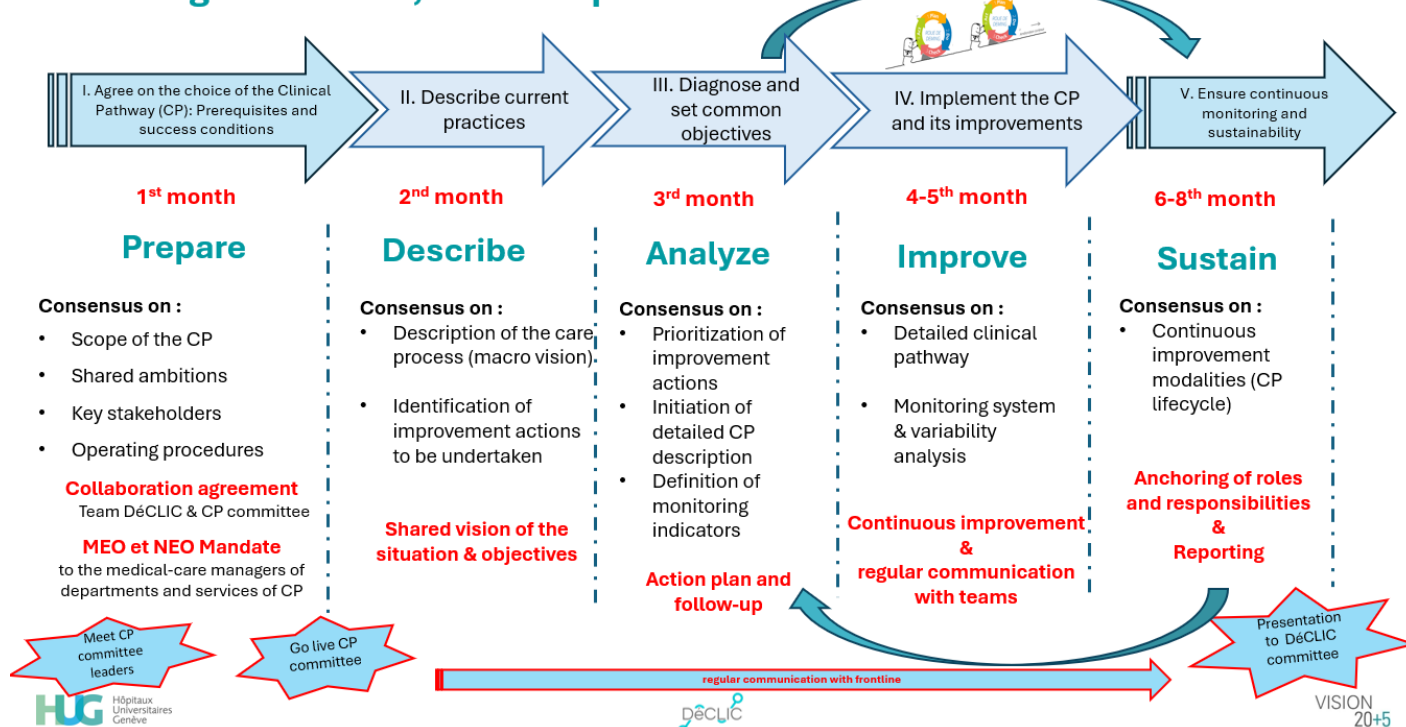
Since its inception, DéCLIC has facilitated the deployment of 20 clinical pathways over two years, encompassing 55% of the institution's clinical departments. Since June 2024, six clinical pathways have been launched each quarter, focusing on areas such as colorectal surgery, paediatric diabetes, brain tumours, acute confusion, stroke, acute coronary syndrome... Each clinical pathway has implemented an average of six improvements (minimum four, maximum twelve). For each CP, an automatic indicator report is sent to committee members and department managers, then reviewed in monthly meetings. Additionally, 63% of established CP committees have included a patient partner.

Conclusion

The DéCLIC programme demonstrates that rapid and large-scale deployment of CPs is achievable and facilitates measurable improvements, supported by interprofessional collaboration and patient partner involvement. The integration of innovative methodologies, such as process mining, offers promising prospects for optimising care pathways.

Conflicts of interest related to this abstract: None

Fig 1 : DéCLIC, the 5 steps method



P-2029

Defining a Perfect Care Index (PCI) for a Hospital at Home Program: A pilot project with patients with nutritional support.

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Introduction

Healthcare quality indicators are recognized as essential tools for objective evaluation of the care provided to patient groups. These indicators serve as valuable management tools with the ultimate goal of providing high-quality, patient- and family-centered care. The perfect healthcare index is a binary measure that reflects the percentage of optimal care provided over a given period. It can be used to identify areas for improvement in the quality of care. However, few indices are available for use in Hospital at Home Programs, particularly in the Latin American context, where home care teams and patients and their families face different challenges.

Aim/Objective(s)

- To define a perfect healthcare index for patients in a Hospital at Home Program for ensuring comprehensive, safe and efficient care in the patient's home environment.
- To test the perfect healthcare index throughout a study pilot in a sample of patients with home parenteral and enteral nutrition.

Methods

We defined a perfect healthcare index for a Hospital at Home Program based on the proposed standardized protocols existing in the program and in the available literature. Then, we piloted the proposed PCI at our Hospital at Home Program with a total of 7 patients with enteral or parenteral nutritional support. We estimated each indicator of the proposed PCI in this patient group using databases. Finally, we qualitatively analyzed factors influencing performance. We developed a Perfect Healthcare Index for the Hospital at Home Program at Fundación Santa Fe de Bogotá, based on standardized protocols, expert consultations, and literature. Key dimensions and indicators were identified for systematic tracking. The index was piloted in patients receiving enteral or parenteral nutrition at home from August 2024 to February 2025. Indicator scores were calculated using patient records and administrative data. Finally, we qualitatively analyzed factors influencing indicator performance.

Results

After analyzing the available data, we defined six dimensions for the Perfect Healthcare Index, which can be systematically measured using objective indicators in our Hospital at Home program: 1) Individualized Care Plans (20%); 2) Clinical and Safety Protocols (20%); 3) Efficiency in Monitoring and Interprofessional Communication (20%); 4) Monitoring of Therapeutic Goals (20%); 5) Patient Education and Empowerment (10%); 6) Patient and Family Satisfaction (10%). Table 1 outlines the definition of each dimension, its primary goal, and the measurable indicators. Each dimension score reflects the percentage of achievement of its indicators for a specific period. The overall Perfect Healthcare Index is calculated by summing the scores from each dimension.

Table 1. Dimensions and indicators of the perfect care index

Dimension	Indicators
Individualized Care Plans (20%)	1. Percentage of patients whose home care plan has been fulfilled without deviations (20%)
Clinical and Safety Protocols (20%)	2. Percentage of compliance with established protocols for each patient, evaluated through audits and reviews by health personnel (7%) 3. Percentage of home visits completed on time according to patient care plan, without delays (6%) 4. Percentage of medicines administered correctly at home, with no reported errors in dosage, timing or type of medicine (7%)
Efficiency in Monitoring and Interprofessional Communication (20%)	5. Percentage of effective use of technological tools to track patients' health status in real time (10%) 6. Percentage of cases where there is effective communication between health professionals involved in the patient's care (physicians, nurses, therapists) to ensure that everyone is aware of the patient's condition and needs (10%)
Monitoring of therapeutic goals (20%)	7. Percentage of patients who do not experience preventable complications during home care (10%) 8. Percentage of patients with maintained or improved general health (10%)
Patient Education and Empowerment (10%)	9. Percentage of caregivers successfully trained according to skills and knowledge assessments (5%) 10. Percentage of caregivers that met the 48-hour care targets set by the nursing and medical staff (5%)
Patient and Family Satisfaction (10%)	11. Average percentage of patient/family satisfaction in periodic surveys measured by institutional Net Promoter Score (10%)

We piloted the index in our Hospital at Home program with a sample of 7 patients receiving enteral or parenteral nutritional support at home. The global score of the Perfect Healthcare Index for this pilot was 92%. This index reflects the quality of care provided, encompassing both clinical outcomes and patient satisfaction. Importantly, it also allowed us to identify areas for improvement.

Conclusion

The Perfect Healthcare Index is a useful tool for identifying areas for quality improvement in healthcare delivery. To our knowledge, this is one of the first Hospital at Home Programs to implement such an index. Patients receiving enteral or parenteral nutrition at home require high-quality care standards, with an emphasis on person-centered approaches. Our pilot study suggests that the Perfect Healthcare Index is a valuable tool for guiding team strategies aimed at optimizing care while maintaining a patient-centered focus.

Conflicts of interest related to this abstract: none

P-2030

Develop Standardized Structure Reporting Platform in Radiology of HA since COVID

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Introduction

Providing essential diagnostic imaging services for screening and monitoring of suspected and confirmed patients is crucial during COVID-19 pandemic. It ensures consistency across radiology reports and important for accurate diagnosis and treatment planning. Standardized templates ensure that all relevant information is included in the report, reducing the risk of errors or omissions. This is particularly important during a pandemic, where time is of the essence and healthcare resources are

stretched thin. Standardized reporting templates allow for easier data collection and analysis. This information can be used to inform health decisions, policy-making and to track the spread of COVID-19. Standardized reporting templates can improve communication between healthcare professionals. Clear and concise reports ensure that important information is conveyed accurately and efficiently. This play an essential role where multiple healthcare professionals may be involved in the care of a single patient during pandemic.

Aim/Objective(s)

The objective is to create a Standardized Structured Reporting Template for Radiology across all Hospital Authority (HA) hospitals in Hong Kong, initiated since COVID. This initiative aims to enhance consistency in report descriptions, reducing variability in radiology practices. By improving clarity and completeness, it facilitates accurate diagnoses and supports effective treatment planning. The standardized approach promotes better communication among healthcare providers through uniform terminology and reporting formats. Ultimately, this initiative seeks to improve the quality and reliability of radiological services, leading to better patient outcomes across HA hospitals.

Methods

Established the SSRP working group and invited the radiologist specialists to develop the related template (e.g. COVID -19 CXR baseline & Follow up). Identify the key elements to include in the template. Firstly, identify the essential elements that should be included in the SSR template by consultation with radiologists. Secondly, develop a draft template included the elements, all essential information and in structured way. Thirdly, the draft template had been tested by several radiologists by using the template to create reports with all necessary information. Refined the template based on radiologists feedback to enhance its effectiveness. Finalized the template and plan for the implementation.

Results

Implemented the COVID -19 CXR (baseline) & COVID -19 CXR (Follow up) template with 100% usage mandatory for HKICC & AWE in NLTH since Jan 2022. From statistic record, 9148 reports had been created for COVID -19 CXR (baseline) & 9152 reports had been created for COVID -19 CXR (Follow up) in 2022. Moreover, SSRP workgroup stated the plan of consecutive development. The Generic CXR template had been implemented to all hospitals of HA with 4040 reports created in 2022, over 4100 reports created in 2023 & 2024 individually. The CT coronary angiogram template had been implemented to all hospitals of HA with 1471 reports had been created in 2022, 3012 reports had been created in 2023 and 3697 reports had been created in 2024.

Conclusion

The development of a standardized structured reporting template for radiology within Hospital Authority hospitals marks a significant advancement in enhancing the quality of healthcare delivery. By ensuring consistency in report descriptions, this initiative not only improves diagnostic accuracy but also facilitates effective treatment planning. The uniform approach fosters better communication among healthcare professionals, ultimately benefiting patient care and outcomes. As the HA continues to adapt to evolving healthcare needs, this initiative exemplifies a commitment to excellence in radiological services, reinforcing the importance of collaboration and standardization in delivering high-quality patient care across the network of HA hospitals.

Conflicts of interest related to this abstract: None

P-2031

Developing an innovative Tool to assess risk culture and organizational readiness for Enterprise Risk Management program at Tertiary Hospital

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Introduction

Hospitals operate in a complex and high-risk environment where minor errors can have devastating consequences. Enterprise Risk Management (ERM) enables healthcare organizations to proactively identify, assess, and address potential threats to patient safety. ERM in healthcare involves clinical and administrative systems designed to identify, monitor, and address risks. This approach helps organizations not only protect patient safety but also secure assets, maintain accreditation, preserve brand reputation, and safeguard financial standing. Therefore, a well-established risk culture, is vital to enhancing safety outcomes and organizational resilience. Nonetheless, its align with Oman vision 2040, The Council of Ministers & tenth five-year development plan 2021-2025. Ministry of developing risk management programs in different sectors in Oman. The Royal hospital established the the risk management section under the quality management & patient safety department. The aim of this section is to assess clinical and non clinical risk alongside the health safety environment.

Aim/Objective(s)

The aim of this tool development is to fill the critical gap by assess the risk culture readiness in the health sector in Oman & the region through developing a novel and validated tool, adapted from multiple organizational frameworks to assess risk culture & organizational readiness. Assessing risk culture in hospitals is necessary to identify gaps in risk management practices, promote open communication about potential hazards, and foster a proactive rather than reactive approach to risk mitigation. A well-designed and effectively implemented risk culture fosters a supportive environment for successful ERM implementation.

Methods

The tool was developed based on five key principle of risk culture at University of Nebraska and then questions were integrated in the sections based on healthcare organization needs in Oman. Then tool was sent to experts for review. These experts were from different organizations such as Oman, Qatar, and Egypt and were expert in research as well as risk management. Minimal modifications were made based on their feedback. The tool was piloted then among group of targeted population from Royal hospital. These participants were clinical and non-clinical staff from different departments. Based on pilot study, researchers decided to proceed without modifying the study design or the tool (Allen R. Kunselman, 2024). As there was no modification recommended from the pilot study, researchers tested the tool reliability using SPSS program version 23.

Results

Tool developed consisted of 26 questions in five domains of risk culture. Each question was rated from 1-5 (strongly disagree- Strongly Disagree). These domains are; ability to anticipate decision, adequate resources and capacity to respond to changing conditions, free flow of information into and throughout the organization, willingness to learn and adapt, risk management is impeded in all decisions making process. The reliability test for the overall tool was 0.874 and then it was tested

for each domain. The ability to anticipate decision that contained four items Cronbach alpha was 0.87, then domain of adequate resources and capacity to respond to changing conditions contained four items and its Cronbach alpha was 0.898. The third domain which was free flow of information into and throughout the organization included seven items and its reliability was 0.914, the willingness to learn and adapt included six items and the reliability was found to be 0.897, the final one was risk management is impeded in all decisions making process included five items and the domain reliability was 0.876.

Conclusion

The innovative tool that was developed is a unique and the first in healthcare sectors. This tool was established based on context of healthcare organizations needs and found to be highly reliable (Cronbach alpha 0.874). Therefore, it can be generalized for all healthcare organizations in order to assess organizational readiness toward risk culture

Conflicts of interest related to this abstract: no conflict of interest in presenting this research

P-2032

Developing an interprofessional clinical pathway for delirium in acute geriatric care

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Introduction

Delirium is a frequent yet underrecognized condition in hospitalized older adults, contributing to increased morbidity, prolonged hospital stays, and long-term cognitive decline. Despite its clinical significance, detection and management remain inconsistent due to variable screening practices and the absence of standardized protocols. At Trois-Chêne Hospital, where many patients present with cognitive impairment, improving delirium recognition is a priority. To address this, an interprofessional team developed a structured clinical pathway integrating systematic screening and digital decision-support tools into routine workflows. Currently in the pre-implementation phase, the pathway aims to standardize delirium assessment and management across acute geriatric care, with pilot deployment planned in the coming months.

Aim/Objective(s)

This project aims to develop and implement a standardized clinical pathway for delirium, ensuring systematic detection and interprofessional coordination. Specific objectives include:

- Integrating structured screening tools into emergency triage and inpatient monitoring.

- Standardizing assessment workflows through interprofessional collaboration.
- Establishing evidence-based management protocols, including a delirium-specific pharmacological guideline and structured non-pharmacological interventions.
- Leveraging digital innovations, such as automated risk alerts and decision-support tools.
- Strengthening hospital coordination to facilitate seamless transitions between inpatient care and home care.

Methods

The pathway is being developed within the DéCLIC (Coordinated and Large-Scale Deployment of Clinical Pathways) program using a structured, iterative approach. A retrospective analysis and qualitative assessment with clinicians identified gaps and opportunities in delirium management. Based on these findings, an interprofessional working group – including a patient partner caregiver actively involved in the methodology and validation process – designed a five-step pathway integrating systematic screening, standardized protocols, and digital decision-support tools. Stakeholder engagement and clinician training are ongoing to ensure feasibility. Digital tools, including EHR-based alerts and decision-support systems, are being finalized, and an evaluation framework leveraging EHR analytics is under development to assess feasibility before full-scale implementation.

Results

The development phase identified key barriers to delirium detection and management at Trois-Chêne Hospital. Among 5,175 admissions in 2024, only 22.5% (1,162 patients) had a documented delirium diagnosis, despite an expected prevalence of ≥30%. The Confusion Assessment Method (CAM) was recorded in 2% of cases, indicating low adherence to structured screening. Triage misclassification was frequent, with 36.7% of delirium patients initially assigned lower urgency levels (degree 3 or 4 on the Swiss Triage Scale), delaying timely intervention. Only 20.3% were classified as critical (degree 1), 43% as very urgent (degree 2), 35.4% as urgent but deferrable (degree 3), and 1.3% as low priority (degree 4). Many were labelled with non-specific complaints such as "unwell patient" or "fall," masking underlying delirium and leading to inadequate initial management. Healthcare professional interviews revealed an overconfidence bias, where delirium was not perceived as a detection challenge despite clear evidence of underdiagnosis. This contributed to inconsistent screening and underutilization of available tools. These findings informed the development of a structured five-step clinical pathway integrating systematic detection, assessment, treatment, prevention, and discharge planning. To ensure quality improvement, specific indicators are being developed and integrated into DynamO's monthly meetings, facilitating continuous assessment and optimization of care processes.

Conclusion

The development of a structured clinical pathway for delirium has highlighted critical gaps in detection, triage, and management, underscoring the need for systematic workflow integration. By embedding standardized screening protocols, digital decision-support tools, and multidisciplinary workflows, this initiative aims to establish a scalable and sustainable model for delirium care. As the project advances toward pilot implementation, efforts will focus on optimizing digital tools, strengthening clinician engagement, and rigorously evaluating feasibility before hospital-wide deployment.

Conflicts of interest related to this abstract: None

P-2033**Development of a decentralized thrombectomy activity: the pharmaceutical aspect of a strategic partnership of two French hospitals**

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Introduction

In France, there are more than 140,000 new cases of strokes every year (1 every four minutes). Stroke is an absolute medical emergency as in 1 minute a patient loses approximately 2 million neurons. Therefore, everything must be done to reduce the time between the first symptoms and reperfusion. The management of strokes in France relies on 132 neurovascular units, including 37 specialized centers able to perform mechanical thrombectomy. This technic is an alternative to intravenous thrombolysis when the latter is insufficient or is no longer indicated (time period >4.5 hours). In 2024, 86% of strokes requiring mechanical thrombectomy that occurred in the Meaux population area were treated in our facility, which is the closest INR unit (54km away or 1 hour by car). However, "time is brain" and 1 hour lost in transportation means 120 million neurons lost and an tremendous increase of the risk of major neurological sequelae.

Aim/Objective(s)

Stroke management must be based on a territorial network with rapid and highly specialized action. The aim of this regional project is therefore to establish a completely new thrombectomy activity in the Meaux area by partnering two hospitals in the Paris area. The objective of our work is to describe the pharmaceutical implementation of this project.

Methods

Pharmaceutical meetings: Starting in January, meetings were held between the pharmacists from the two hospitals to coordinate actions. Pharmacists from the GHEF visited the storage spaces at the HFAR to anticipate the space allocation for the various products. Consumption data from the INR unit at the HFAR for 2024 (across all indications) were extracted from PHARMA® (Computer Engineering), the pharmaceutical management software. The list of products went through 4 versions. The first data analysis was performed by a Pharmacist to identify the medical devices (MD) specifically used in mechanical thrombectomy and the standard medical devices (syringes, gloves, compresses...) Medical-pharmaceutical meetings: Optimization of the number of references and suppliers to facilitate the implementation of the activity, while considering compliance with public procurement regulations for the pharmacists and minimizing storage space. Meetings with the key suppliers to inform them of the project and allow them to anticipate orders in the coming months.

Results

3 meetings were necessary: M1 was a pharmaceutical meeting (1h), M2 was a HFAR medical-pharmaceutical meeting (2h), M3 was a visit to HFAR by the GHEF pharmacists (2h). The participants were respectively 6, 9, and 8. The professionals gathered were: pharmacists from HFAR and GHEF, the head and Co-Head of the INR unit, neuroradiologist, pharmacy interns, PhT

(Pharmacy Technician) manager, PhT and radiology technician. The MD list establishment required 4 versions, 40 hours of work and 7 hours with the suppliers. The number of references was: 789 for V1, 248 for V2 (182 specific to thrombectomy, 68 standard MD), 198 for V3 and V4 (132 specific to thrombectomy, 68 standard MD). For V4, the products were classified by supplier, Cladimed class and product category. The number of suppliers was 60 for V1, 33 for V2 (15 for thrombectomy and 18 for standard MD) and 31 for V3 and V4 (13 for thrombectomy and 18 for standard MD). 7 of the 13 suppliers specific to thrombectomy represent 94% of the references. This optimization reduced the cost of the MD list from 985,000 to 325,000 euros excluding VAT. The estimated storage volume in the pharmacy is 3m² and 6m² in INR unit.

Conclusion

Stroke management is a major public health issue, with an average age of onset of around 74 years and an increasing incidence that parallels the aging population. The pharmaceutical aspect of this regional and institutional project was crucial for the successful implementation of a brand new decentralized thrombectomy activity in stroke management. From a public health perspective, this implantation will offer the residents of the GHEF population health-care as early as possible to limit the neurological and potentially fatal consequences of a stroke. From an eco-responsibility standpoint, it will limit long-distance travel to a distant interventional neuroradiology unit and use resources efficiently. Our study demonstrated that the pharmaceutical collaboration has contributed to the establishment of this major new activity, in a limited period of time. In the future, it would be interesting to evaluate the impact of this structure on the management of patient requiring a mechanical thrombectomy. Another perspective will be to expand the interventional neuroradiology activity to other procedures such as diagnostics or embolization.

Conflicts of interest related to this abstract: None

P-2034**Diagnostic Safety: A Collective Commitment to Reducing Errors, An Interpersonal Responsibility**

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Introduction

Ensuring diagnostic safety is a complex challenge that requires clinical knowledge, transparency, effective communication skills, equitable access to healthcare services, and appropriate tools to prevent errors and delays. Diagnostic errors are not just technical failures but collective responsibilities involving both healthcare professionals and patients. When a diagnosis is incorrect or delayed, the consequences extend beyond the patient, affecting families and the healthcare system. Improving diagnostic safety requires a collaborative approach, engaging professionals and the public in data collection, critical analysis, and solution development. This project aims to assess the awareness, experiences, and perceptions of citizens, doctors, and healthcare professionals regarding diagnostic safety. Through a multidisciplinary team and the involvement of key stakeholders, we have collected quantitative and qualitative data to identify critical issues and opportunities for improvement. Addressing this issue demands a shared commitment to fostering a culture of safety and responsibility.

Aim/Objective(s)

The primary goal of this project is to raise awareness of how each stakeholder (healthcare professionals, patients, and institutions) can contribute to diagnostic safety.

A secondary objective is to collect data on:

- Knowledge level of the diagnostic process.
- Experiences and perceptions of citizens and healthcare professionals

Through this analysis, we aim to identify critical issues and implement targeted interventions to improve diagnostic accuracy. So that our project examines factors influencing diagnostic errors, including communication barriers, workload, and patient involvement. Using a structured survey approach, we gathered information on public trust in the healthcare system, professional responsibility, and opportunities to improve diagnostic pathways. The collected data serve as the foundation for developing strategies that enhance collaboration, reduce diagnostic errors, and ensure a safer, more effective healthcare system.

Methods

To investigate diagnostic safety, we formed a multidisciplinary team of 36 professionals (18 doctors, 13 healthcare professionals, and 5 administrative staff). In collaboration with stakeholders (*Federfarma, the Provincial School Office, and the Provincial Women's Council*), we designed 3 targeted surveys:

- Citizens to explore awareness level, trust in the system, diagnostic experiences.
- Healthcare professionals to investigate perceived role in diagnosis, challenges, and suggestions for improvement.
- Physicians to evaluate their knowledge about diagnostic process, risk factors for failure, obstacles to safety, and possible solutions.

The 3 surveys were distributed at different times to avoid overlap:

- Citizens (Dec 13, 2024 – Jan 31, 2025)
- Healthcare professionals and doctors (Feb 1 – Mar 10, 2025)

We used a multimodal distribution strategy, including online publication, the corporate intranet, posters with QR codes, and snowball sampling via pharmacies and school networks. Data were analyzed both quantitatively and qualitatively to identify trends and critical issues in diagnostic safety.

Results

A total of 1,036 citizens, 102 physicians and 328 healthcare professionals responded to the survey. Citizen sample included 44.5% aged 30–65, with 52% female and predominantly high school graduates. About 60% had correct knowledge of the diagnostic process, while 76%–95% were aware of their role in diagnostic safety (bringing medical records, asking questions, reporting symptoms). Awareness regarding safe behaviors expected from physicians (careful listening, reviewing documentation, clear communication) was also high. Results about experience highlighted satisfied needs (60%) in terms of listening, patient care, and accessibility, but also challenges in service access, intermediate clinical checks, and follow-up. Among physicians and healthcare professionals, most had over 15 years of experience, were aged 40–59 (46%), and were female (65.4%). Most healthcare professionals recognized their key role and acknowledged that diagnosis is not solely a medical responsibility. However, they reported problems with inter-professional communication (49.7%) and identified excessive workload as a major barrier to diagnostic safety (35.5%). Physicians reported higher self-perceived effectiveness in listening and information-sharing compared to patient perceptions (87% of physicians vs. 60% of citizens). Additionally, 70% of them received feedbacks about personal diagnostic errors

which generated negative feelings while also provided the drive for professional growth.

Conclusion

The three surveys confirmed already perceived critical issues: suboptimal communication both among professionals and with citizens and their caregivers, difficult in immediate access to clinical information for professionals, and challenges in accessing services for users. To address these issues, we planned a series of co-creation workshops including four activities:

1. Analysis of collected evidence to identify vulnerabilities from an inter-professional perspective.
2. Defining the target of an educational campaign, Identifying populations and areas for targeted interventions.
3. Developing key messages, recognizing that every error has a human dimension, requiring an ethical, participatory, and cross-disciplinary approach.
4. Choosing communication channels: according to their preferences, by implementing a multimodal approach, with training for professionals, social media for younger audiences, and direct messaging (email, SMS, WhatsApp) for the general population.

In summary, diagnostic safety is a journey, a book with many chapters and many authors. Each of us must play our own part, based on role, knowledge, competence, and responsibility.

Indeed, identifying an error only makes sense if we work to prevent it from happening again.

Conflicts of interest related to this abstract: None

P-2035

DM one stop clinic as a model of care to improve DM outcome

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Introduction

Diabetes mellitus is a prevalent condition in the Al-Quwayyah Community. Given the growing prevalence of the condition, the facility is committed to offering comprehensive care to patients who have been diagnosed with the disease. DM A single clinic consultation at a one-stop clinic provides a comprehensive array of services and care, such as diagnosis, treatment, monitoring, education, and support. The patient will be cared for by a multidisciplinary team that includes a nephrologist, endocrinologist, nutritionist, nurses, ophthalmologist, physiotherapist, and social worker.

Aim/Objective(s)

This guarantees that the patients receive all of their care during a single visit, thereby simplifying the management of their condition. This initiative aims to bring efficiency savings to health systems, improve patient outcomes, reduce the risk of complications, and improve patient experience by reducing delays and waiting time. This will be achieved through early diagnosis and management.

Methods

We identify opportunities to enhance the outcome of diabetic patients who present with complications upon their admission to the hospital using the FOCUS PDCA framework. The health care leader, medical director, and heads of departments involved in the procedure comprise the team. The data is collected and analyzed to facilitate the project. The principal issues are identified, and the current process is comprehended. The action plan is structured with a predetermined time frame and assigned responsibilities. Subsequently, the outcome is evaluated once more after six months.

Results

After implementation of action plan, a total of 496 patients were seen in DM one stop clinic in a span of six months. Patients with complications are continuously managed. The one-stop clinic shortens the cycle from diagnosis to treatment and follow-up

Conclusion

In coordination with all concerned departments, the hospital will continuously strive for improvement of its services and further increase number of patients seen through regular monitoring and taking necessary actions. The project continues to monitor diabetes cases and identifies complications as part of an early screening program, providing patients the opportunity for management prior to the onset of symptoms

Conflicts of interest related to this abstract: NO

P-2036

Dynamo: A Data-Driven Quality Management Program – Implementation and Six-Year Outcomes at a Multi-Site Swiss University Hospital

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Introduction

Hospitals face the challenge of utilizing numerous national quality indicator reports for continuous frontline improvement. In 2018, HUG developed a dynamic clinical indicators dashboard (ID) to disseminate these indicators among staff, analyze results, and implement improvement actions.

Aim/Objective(s)

Implement an operational quality management concept involving frontline interprofessional teams in a large multi-site university hospital.

Methods

1. Conceptualization: Engage all collaborators by displaying indicator reports (graphics). Designated individuals (e.g., Nurse Managers, referent nurses, doctors) analyze results. Monthly 30-minute interprofessional team sessions discuss these results, identify necessary improvement actions, and are led by Nurse Managers. Summaries of these sessions are then displayed alongside the graphics.
2. Report Design and Automation: Develop and automate the report from the ID.
3. Manager Training: Train managers in technical use of the ID and indicator analysis.
4. Pilot Launch: Initiate the program in one unit starting January 2019.
5. Program Expansion: Gradually extend the program across additional units and departments.

Sustainability: Ensure ongoing support and coaching for managers to maintain the program's effectiveness.

Results

1. Deployment: As of early 2025, the program has been implemented across all 10 clinical departments, including 30 services, covering 85% (93 out of 111) of hospitalization units.
2. Impact on Process and Results Indicators: Notable improvements include (graphs in annexe):

Indicator	Baseline (%)	Follow-up 2024 (%)

Patient pain assessment at admission (two evaluations within 24 hours)	52% (2016)	76%
Detection of pressure ulcer risk for adult	52% (2016)	94%
Detection of fall risk for adult	46% (2019)	83%
Hand hygiene compliance rate	69% (2016)	78%
Complication rate for peripheral vascular access	36% (2021)	24.60%
Cesarean section rate	30% (2016)	23.70%
Administration rate of biosimilar medications	58% (2020)	95.70%
Improvement in MIF (Functional Independence Measure) scores between admission and discharge	7.5 (2020)	10.60

all results are statistically significant

3. Team Dynamics: Displaying, analyzing, and discussing results during monthly team meetings led to:

- Enhanced communication.
- Better awareness of available resources.
- Development of practical and concrete solutions.
- Visibility of the impact of improvement actions, strengthening staff involvement and motivation.

4. Sharing Improvement Ideas between units and services.

5. Standardization of Practices: Standardized practices within departments, reinforcing clinical significance.

6. Enhanced Collaboration: between units and networks specializing in pain management, wound care, infection prevention and control, Bedsore...

Conclusion

The Dynamo program has effectively integrated a data-driven quality management approach across HUG, leading to significant improvements in clinical processes and outcomes by engaging interprofessional teams in continuous quality improvement. This program exemplifies effective implementation of continuous improvement initiatives, aligning with the mandatory quality contracts (H+) now required for hospitals and clinics in Switzerland. This comprehensive approach not only enhances patient care quality and safety but also fosters a culture of excellence, interprofessional collaboration, and adherence to national healthcare standards.

Conflicts of interest related to this abstract: None

P-2037

Early Activation of Hospital Social Workers Through Social Risk Indicators: Impact on Hospital Stay and Discharge Planning

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Introduction

Hospital social workers (SWs) in acute care settings address the social dimension of patients (bio-psycho-social-spiritual) and the Social Determinants of Health (SDH) influencing the health-disease process. SWs are activated through medical service consultations (MCs); however, these referrals are often delayed, arriving close to discharge when the patient or family expresses difficulties in returning home. Such delays lead to unnecessarily prolonged hospital stays, particularly in elderly and frail patients, increasing their risk of preventable complications (Rojano et al., 2015). Early discharge planning, with timely

identification and activation of SWs to address social challenges, could improve discharge outcomes and overall care quality.

Aim/Objective(s)

This study aimed to analyze the effectiveness of early SW activation through social risk indicators.

Specific objectives:

- Assess the association between early SW activation and hospital length of stay (LOS).
- Compare SW activation through medical consultation (MC) versus social risk indicators (SRI).
- Determine the rate of social risk identification during nursing assessments.
- Analyze changes in discharge destinations compared to the previous year.

Methods

A descriptive, observational, retrospective pilot study was conducted in three hospital units from June to July 2024. The study population included all patients admitted to a short-stay unit (SSU) and two surgical units (SUs). The primary variable was early SW activation (within 24–48 hours). Secondary variables included hospital LOS and activation mode (SRI vs. MC). Two activation methods were defined: medical consultation (MC) and automatic activation based on the identification of four evidence-based SRIs during nursing assessments (Aymerich, 2008; Álvarez et al., 2021; Prieto-Miranda et al., 2015):

1. Living alone without self-care capacity.
2. Lack of an adequate caregiver.
3. Caregiver burden.
4. Inadequate or insufficient care.

Identifying any of these indicators triggered an automatic referral to the SW, ensuring intervention within 24–48 hours.

Results

A total of 663 patients were admitted during the study period: 390 in the SSU and 273 in the SUs.

Short-Stay Unit (SSU):

- 19% (74 patients) were attended by the SW.
- 33% increase in SW activity compared to 2023 (74 vs. 49 patients).
- 75% of SW activations were based on SRI (55 patients), while 25% were based on MC (18 patients).
- The nursing detection rate for SRI was 40.73%.
- Mean LOS for SW-attended patients: 8.1 days (vs. 8.3 days in 2023).
- Mean LOS by activation method: MC: 9.2 days; SRI: 7.1 days

Surgical Units (SUs):

- 53% (145 patients) were attended by the SW.
- 25% increase in SW activity compared to 2023 (145 vs. 110 patients).
- 48% of SW activations were based on SRI (70 patients), while 52% were based on MC (75 patients).
- The nursing detection rate for SRI was 67%.
- Mean LOS: 14.2 days. Patients activated via MC: 17 days. Patients activated via SRI: 12 days

Conclusion

This study demonstrates that early SW intervention reduces hospital LOS, improving healthcare system efficiency by preventing prolonged stays. It also leads to increased home discharges and reduced transfer times to intermediate care, facilitating patient return home and optimizing hospital resources. Findings highlight the need for continued research, as SRI-based SW activation rates in both SSU and SUs indicate room for improvement. Interdisciplinary teamwork in discharge planning ensures comprehensive patient care and enhances system efficiency. Addressing SDH – responsible for 30–50% of

health outcomes (WHO) – during hospitalization through structured discharge planning yields significant benefits.

Conflicts of interest related to this abstract: None

P-2038

Effect of non-nutritive sucking on feeding intolerance in premature Infants.

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Introduction

When premature infants are just born, their cardiopulmonary function is not yet stable, and their body organs, sucking ability, and gastrointestinal digestion and absorption ability are not yet mature. They often need a gastric tube to be placed and progressive tube feeding to provide enteral nutrition and intravenous injection to provide parenteral nutrition. During tube feeding, premature infants undergoing enteral feeding are prone to feeding intolerance symptoms, such as increased gastric residual volume, abdominal distension, and regurgitation, due to the immaturity of their gastrointestinal structure and function. These symptoms often result in reduced feeding volumes or cessation of feeding, leading to inadequate intestinal nutrition, which in turn leads to extrauterine growth restriction in premature infants, prolonged use of intravenous nutrition, increased risk of late sepsis, and affects the neurological development, growth, prognosis and increased length of hospital stay in premature infants.

Aim/Objective(s)

This study investigates the effectiveness of non-nutritive sucking (NNS) in reducing feeding intolerance, improving gastrointestinal function, and enhancing nutritional intake in premature infants.

Methods

A prospective, randomized controlled trial was conducted in the neonatal intensive care unit (NICU) of a tertiary medical center in northern Taiwan. Eligible participants were randomly assigned to one of three groups: Experimental Group A (NNS for 5 minutes, n = 35), Experimental Group B (NNS for 15 minutes, n = 35), and the Control Group (no NNS intervention, n = 35). The primary outcome measures included changes in gastric residual volume, abdominal circumference, and regurgitation. Measurements were taken twice daily, at six-hour intervals, over a three-day period. Statistical analyses were performed using the Generalized Estimating Equation (GEE) to evaluate differences across groups and time points. This trial was approved by the institutional review board of a medical center. The study was supported by the Research Support Scheme of the Chang Gung Memorial Hospital, Linkou, Taiwan, grant no. CMRPG3N0151, CMRPG3N0152.

Results

The results demonstrated that infants receiving non-nutritive sucking had significantly lower gastric residual volume ($P < 0.001$ and $P = 0.001$) and abdominal circumference changes ($P < 0.001$ and $P = 0.002$) compared to the control group. However, no statistically significant differences were observed in these outcomes between the 5-minute and 15-minute non-nutritive sucking interventions ($P = 0.156$ and $P = 0.241$, respectively). This study provides evidence that a 5-minute NNS intervention effectively mitigates feeding intolerance in premature infants, specifically by reducing gastric residual volume and abdominal distension.

Conclusion

Nutrition is essential for the growth, metabolism and immunity of premature infants. Early enteral nutrition remains the cornerstone of neonatal nutrition. Timely establishment of enteral feeding and reduction of feeding interruptions are the key to optimal nutrition for premature infants. The purpose of this study was to investigate the effects of different durations of non-nutritive sucking before tube feeding on gastric residual volume, abdominal distension, and vomiting in premature infants after tube feeding. This is the first study to explore the effect of non-nutritive sucking intervention at different times on feeding intolerance in premature infants. Non-nutritive sucking for 5 minutes is as effective as 15 minutes in reducing feeding intolerance. This study provides evidence that a 5-minute non-nutritional sucking intervention effectively mitigates feeding intolerance in premature infants, specifically by reducing gastric residual volume and abdominal distension. The findings suggest that shorter non-nutritive sucking durations are sufficient, potentially lowering the time and labor burden on clinical staff. Future research should explore the effects of non-nutritive sucking across diverse populations and intervention durations to optimize its application in managing feeding intolerance in premature infants.

Conflicts of interest related to this abstract: None

P-2039

Effectiveness of Cognitive Behavioral Therapy in Addressing Stigmatization Among Breast Cancer Patients: A Systematic Review

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Introduction

Breast cancer survivors often face significant psychological challenges post-treatment, including health-related stigma that affects their recovery and quality of life. Cognitive Behavioral Therapy (CBT) has been widely recognized as an effective approach to addressing emotional distress, body image concerns, and depressive symptoms in cancer patients. Empirical studies highlight CBT's role in improving psychological well-being and self-esteem, particularly when combined with mindfulness practices and cognitive restructuring techniques. At Linkou Chang Gung Memorial Hospital in Taoyuan, Taiwan, a leading medical institution known for its comprehensive cancer care, integrating CBT into survivorship programs could provide tailored mental health support. Given the hospital's expertise in multidisciplinary treatment, incorporating CBT into patient care may enhance long-term recovery outcomes. Addressing both psychological and physical aspects of rehabilitation, CBT interventions can help breast cancer survivors navigate post-treatment challenges, fostering resilience and improving their overall quality of life.

Aim/Objective(s)

Breast cancer patients often struggle with psychological distress and health-related stigma following surgery, chemotherapy, and other treatments, which can negatively impact their recovery and quality of life. Cognitive Behavioral Therapy (CBT) has been shown to effectively address emotional challenges associated with cancer diagnosis and treatment. This research aims to explore the applicability of CBT in supporting breast cancer survivors, specifically in alleviating depressive symptoms, improving body image, and enhancing psychological well-being. By reviewing empirical studies, the study seeks to identify effective CBT interventions tailored to this population and evaluate their clinical benefits. Additionally, the research aims to provide practical recommendations for integrating CBT

into post-treatment care, ensuring a holistic approach to survivorship. Ultimately, this study strives to contribute to the development of mental health support strategies that enhance resilience, self-esteem, and overall quality of life for breast cancer patients.

Methods

This study employs a systematic review methodology to examine empirical studies on the application of Cognitive Behavioral Therapy (CBT) in addressing psychological challenges faced by breast cancer patients. The research focuses on interventions targeting body image, self-esteem, and depressive symptoms. Participants include breast cancer survivors from various clinical settings, selected through purposive sampling to ensure relevance. Data collection involves reviewing peer-reviewed studies published in medical and psychological journals, emphasizing randomized controlled trials and longitudinal studies. Tools employed include standardized psychological assessment measures such as the Beck Depression Inventory (BDI) and the Body Image Scale (BIS). Data analysis follows a thematic synthesis approach, categorizing findings based on intervention effectiveness, population characteristics, and clinical applicability. The study aims to provide evidence-based recommendations for integrating CBT into survivorship care, enhancing mental health outcomes and overall well-being for breast cancer patients.

Results

A literature analysis on interventions aimed at improving body image among breast cancer patients revealed that Cognitive Behavioral Therapy (CBT) and mindfulness-based interventions significantly enhance self-esteem, reduce body image distress, and improve psychological well-being. Studies utilizing randomized controlled trials (RCTs) and longitudinal designs reported that CBT interventions incorporating cognitive restructuring led to a 30–50% reduction in depressive symptoms, as measured by the Beck Depression Inventory (BDI). Mindfulness-based interventions, including mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT), were also found to be highly effective. Research indicated that participants engaging in mindfulness practices showed a 25–40% improvement in body image perception, measured using the Body Image Scale (BIS). These techniques foster self-acceptance and emotional resilience, crucial for breast cancer survivors facing stigma and physical changes. Thematic synthesis of qualitative studies further highlighted that integrating CBT with physical activities, such as yoga or guided movement therapy, yielded additional benefits in promoting positive body image. This evidence supports the clinical application of CBT and mindfulness in post-treatment care, emphasizing their role in improving overall quality of life for breast cancer patients. The findings reinforce the need for structured psychological interventions to support long-term recovery and emotional well-being.

Conclusion

This study highlights the need to explore the optimal combination of intervention strategies, integrating Cognitive Behavioral Therapy (CBT) with mindfulness techniques, exercise, and social support to enhance psychological well-being among breast cancer patients. Personalized intervention designs tailored to patients' specific needs at different stages of their illness can improve treatment outcomes. Future research should prioritize empirical studies with larger sample sizes and extended follow-ups to assess the long-term efficacy and sustainability of mindfulness-based interventions. Such studies could provide robust evidence supporting the integration of these approaches into standard post-treatment care. By addressing the psychological challenges outlined earlier, this research contributes to health service improvement by promoting holistic survivorship care.

Integrating CBT and mindfulness into clinical practice can reduce health-related stigma, improve self-esteem, and enhance overall quality of life. Moreover, this study offers an innovative contribution to policy and practice by advocating for structured mental health support within oncology care models. Policymakers can use these findings to develop guidelines for implementing evidence-based psychological interventions in hospitals and cancer centers. Additionally, the research provides valuable insights for designing multidisciplinary approaches, reinforcing the importance of psychological well-being as a core component of cancer recovery programs.

Conflicts of interest related to this abstract: none

P-2040

Effects of IVIG on the Neurological Outcomes as an Adjunct in the Management of Encephalitis in Pediatric Age Group: Meta-Analysis

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Introduction

Encephalitis is an inflammation of the brain parenchyma caused by different etiologies. It has been a growing health concern worldwide with increasing morbidity and mortality across all ages. Supportive treatment has always been part of its management. IVIG use has been considered as adjunct to its management however still needs further investigation.

Aim/Objective(s)

General Objective: To determine the effects of intravenous immunoglobulin on the neurological outcomes as an adjunct in the management of encephalitis in pediatric age group.

Specific Objectives:

- A. Primary Outcome: To determine neurologic outcomes such as improvement in Glasgow Coma Scale during admission.
- B. Secondary Outcomes: To determine the effect of IVIG on the length of hospital day and mortality rates when used as an adjunct to conventional therapy.

Methods

Multiple search methods on different databases were done and identified five eligible articles for this meta-analysis, with a case-definition of encephalitis in pediatric population. Statistical analyses were conducted using STATA MP Statistical Software setting p-value ≤ 0.05 as statistically significant. Odds ratio was computed using the frequency or counts of patients with and without the outcomes (mortality), while standardized mean difference was employed for continuous outcomes (GCS and duration of hospital stay) according to group allocation.

Results

A total of 5 RCT studies were included with a total of 299 subjects. Results showed that there is no significant effect on the GCS (SMD = 0.13, $z = 0.32$, $p = 0.747$, 95% CI = -0.64–0.89) and length of hospital stay (SMD = -1.52, $z = 1.72$, $p = 0.086$, 95% CI = -3.25–0.21) between the IVIG and control group but there is moderate to high heterogeneity among included studies. There is a 44% lower risk of mortality in patients in the IVIG group (RR = 0.56, $z = 5.65$, $p = 0.001$, 95% CI = 0.46–0.68) compared to the control group.

Conclusion

In conclusion, evidence of clinical benefits of IVIG as an adjunct in the treatment of viral encephalitis is available however, it still needs further investigation. IVIG has no significant benefit on the Glasgow Coma Scale and length of hospital stay on pediatric patients with encephalitis. However, they have significant effect on lowering the risk of mortality in these patients.

While IVIG therapy is beneficial, some of its efficacy is still unclear. Hence, the indication for IVIG-therapy in patients with encephalitis continue to depend on individual, case-specific decisions.

Conflicts of interest related to this abstract: None

P-2041

Emergency Department overcrowding: A blended and integrated model in the medical and geriatric departments of the University Hospital of Bologna

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Introduction

ED overcrowding is a worldwide issue and is recognized as a major factor limiting accurate, timely, and efficient hospital care. In 2024, the general ED of University hospital of Bologna records more than 68.000 emergency visits and approximately 22% result in hospital admissions. The majority of these patients (65%) were accepted in medicine and geriatric departments. So, optimal management of hospitalizations is mandatory for this institution. According to guidelines defined by the Emilia Romagna region, the University hospital of Bologna uses indicators to monitor ED overcrowding, such as boarding times, length of stay (LOS) in ED and the NEDOCS score. This score is monitored hourly every day, because as the NEDOCS score increases (NEDOCS score >100), such as during flu season peak and heat waves, the hospital implements a flowchart to apply planned organizational strategies to reduce ED overcrowding.

Aim/Objective(s)

The aim of this project is to assess the impact of multiple reorganizations on reducing ED overcrowding and improving patient flow, considering the LOS in the ED. The project consists of various strategies:

- Setting up an Admission room: a dedicated area within the medicine pavilion equipped with several hospital beds, specifically designed for the care of internal medicine and geriatric patients who are ready to be hospitalized in the appropriate department. It stays open from 8 a.m. to 3 p.m., 6 days a week during the peak ED overcrowding periods, monitored with the NEDOCS score.
- Institution of Admissions and Discharges Teams: a doctor, a nurse coordinator and a case manager for each inpatient ward to facilitate patient inflow and outflow. The collaboration with bed managers led to advance admission to the inpatient wards by 12 p.m.
- Improvement of transportations between pavilions to facilitate patients' transfer

Methods

This project was implemented in Medicine pavilion because the medical and geriatric areas received the majority of hospitalized patients who passed through the ED. Data were retrieved from the Regional Informative System and from an internal hospital database, in which all data are accurately anonymized. We compared the period from November 2024 to January 2025 to the same period of the previous year, which coincides with the flu season peak. The analysis regarded the following indicators:

- Boarding at 8:00 a.m.: number of patients in the ED waiting admission to inpatient wards
- LOS in the ED: time from emergency admission to hospitalization in an appropriate hospital ward
- Percentage of patients managed in Admission Room relative to the total of patients recorded at boarding at 8:00 a.m. during the observation period
- Percentage of admissions to inpatient wards of the Medicine pavilions carried out before 12 p.m.

Results

In the two seasons the percentage of admissions in medical and geriatric departments were similar (68%) although the number have changed (3.290 vs 3.200). Regarding boarding at 8:00, the number of patients waiting in the ED for admission in inpatient wards remained the same between the two periods, transitioning from a mean of 15,4 (min = 2, max = 45) to a mean of 16 (min = 0, max = 44). The AR was opened on November 4, 2024, at the beginning of the flu season, and stayed open with a mean of 8 (min = 4, max = 10) occupied beds during this three month, and it received 31% of the total patients recorded as boarding at 8:00 a.m. Therefore, the percentage of advanced admissions to inpatient wards in medical and geriatric areas before 12 p.m. increased from 20,5% in the 2023-2024 season to 29,6%. The most significant effect was the reduction in the average LOS in the ED, which decreased from 11:25 hours to 9:55 hours. A detailed analysis was conducted exclusively on hospitalized patients, revealing a reduction in LOS 12.20 to 8.35 hours. For patients who were transferred to the Short Observation Unit (OBI) before hospitalization, the LOS decreased from 50.35 hours to 33.38 hours.

Conclusion

ED overcrowding is a multifaceted phenomenon, so it is necessary to adopt a multiprofessional and integrated approaches to deal with it. The project, consisting in implementation of various solutions, had a positive impact on reducing ED overcrowding and on the management of hospitalizations. The reduction of LOS in the ED reveals that this reorganization has led to an improvement in work methods both within the emergency department and in the inpatient wards, which manage admissions more efficiently. In particular, the strong collaboration between Admissions and Discharge Teams and bed managers led to earlier admissions in inpatient wards, making the introduction of this Teams a winning strategy to improve the management of beds and hospitalizations. It is also important to highlight the great satisfaction of everyone involved in this project, including both ED team and medicine wards teams. These are only preliminary results and it is certainly necessary to continue monitoring further outcomes. In particular, it may be interesting to implement this model in other pavilions and even in surgical departments.

Conflicts of interest related to this abstract: none

P-2042

Empowering Birth: Strategies to Enhance Maternal Safety by Reducing Unnecessary Cesarean Section

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Introduction

Maternity and Children's Hospital Najran (MCHN) provides both consultations and on-going prenatal care to women with high-risk pregnancies. It is the only referral center for obstetrics cases in the region. Entailing all pregnancy complications will

be managed by MCHN resulting to enormous number of obstetrical cases- C/S rate.

The continuous yearly increase in Cesarean Section rate that has reached 38% in four consecutive years from 2018-2022 and the global advocacy to reduce Cesarean Section, triggered MCH Najran to embarked on this improvement project to address the immediate and long-term health risk associated with surgery. Furthermore, increasing C/S rate is high risk, high volume and high cost that needs immediate action in order to improve quality outcome in patient care as reflected in the appropriateness, efficiency and safety of maternal care. Furthermore, resources will be utilized efficiently and will result in cost containment in Obstetric services.

Aim/Objective(s)

The MCHN team aims to safely decrease the Rate of Cesarean Section by 5% every year from the highest baseline C/S rate (38%).

Objectives:

- To evaluate the factors leading to increasing Cesarean Section rate thereby reducing the unnecessary C/S which associated risks.
- To device an action plan and to adopt preventive measure to safely reduce.
- To promote vaginal deliveries thereby increasing natural birth optimizing maternal and neonatal outcomes.
- To foster of skin to skin contact of mother and baby and initiation of breastfeeding as a baby friendly hospital.
- To reduce complication associated with surgery such as anesthetic complications, wound infections, hemorrhage and prolong hospital stay.
- Reduce rate of RDS associated with early Cesarean Section.
- Increased customer satisfaction.
- Reduced costs and promote cost-effective delivery method.
- Improve efficiency and productivity in Obstetric services.

Methods

- C/S rate indicator are utilize as baseline data.
- The Plan-Do-Check -Act (PDCA) methodology was adopted to initiate and implement the following actions for improvement:

PLAN:

Retrospective C/S rate data were analyzed and shows increased in the average yearly C/S rate with the peak noted at 38% in 2021. C/S Project started from 2022 for 5 years period.

DO:

- Focusing on targeted groups of Primigravida and one Previous Ceasarean.
- Improvement in CTG interpretation (K2 program) for all departmental staff.
- Promote vaginal birth after Ceasarean, instrumental vaginal delivery and assisted vaginal breech delivery.
- Compliance to Caesarean section CPG to ensure appropriate indications.

CHECK & ACT:

- Monthly data collection and analysis to monitor improvement and to assess annually.
- Systematic audit of all C/S cases to examine the commonly occurring indications.
- Peer review of Caesarean Section cases to ensure all decisions aligned with clinical practice guidelines.

Results

- Benchmark of Cesarean Section rate: 30% and below
- Baseline was 38% Cesarean Section rate in 2021
- The yearly data prior to starting the improvement project

- 2018: 29.24%
- 2019: 32.47%
- 2020: 36.23%

C/S improvement project was initiated from 2022 onwards. After implementing the action plan for reduction of Cesarean Section, there was significant reduction as shown with the following yearly C/S rate.

- 2022 – 34.76%
- 2023 – 34.12%
- 2024 – 33.9%

MCHN yearly patient experience rate on in-patient experience journey was 2021 (Before Project started) – 78.47%

Yearly patient experience rate after Improvement Project initiation

- 2022 – 80.11%
- 2023 – 82.16%
- 2024 – 85.48%

Conclusion

The expected outcome of the proposed project is holistic and will address appropriateness, efficiency of delivery of care, quality of service, safety of patient and cost containment. Yearly Cesarean Section rates were safely decreased in Maternity and Children's Hospital in Najran. The project has also helped the Physicians make informed evidence-based decision regarding medical/obstetric indications for Cesarean Section. The domino effect of the project to the hospital expenditure will be greatly impacted due to the reduce requisitions of supplies, use of Operating Theater facilities, delay of other surgical procedures will be reduced, and patient will experience quality maternal health care leading to improved patient experience outcome. MCH in Najran Cesarean Section Improvement project is still ongoing until 2026.

Conflicts of interest related to this abstract: None

P-2043

Empowering hospital managers and care providers to build resilience in cardiovascular care: A study to develop a practical resilience tool

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Introduction

Cardiovascular (CV) diseases are leading causes of death and morbidity globally. Progress in reducing CV diseases mortality had started to slow down before the COVID-19 pandemic and had even started to increase in some European countries. Furthermore, the COVID-19 pandemic has severely impacted CV care delivery, leading to diagnostic and treatment delays and worsening outcomes, resulting into increased morbidity and societal costs. These factors underscore the importance of enhancing resilience in CV care pathways, which implies health systems and their actors' ability to prepare for, absorb and recover from shocks, while ensuring continuity of care delivery for people with CV diseases. Thus, it is crucial to establish robust methods that empower stakeholders to monitor and improve resilience in their own context, aiming to avoid care disruptions during crises that impact health systems, such as extreme climatic events, pandemics, or other emergencies.

Aim/Objective(s)

The RESIL-Card is an EU-funded project (EU4Health #101129203) aiming to develop a 'resilience assessment tool' to enhance health systems' preparedness to ensure care continuity for people with CV diseases during future crises. Building on the lessons learned from the COVID-19 pandemic, experienced disruptions and innovations, the RESIL-Card tool intends to provide guidance for assessing and improving health systems' preparedness to absorb shocks. Specifically, the tool targets professionals with leading roles at the organisational level of the health system, such as head nurses, heads of department, and hospital managers. It aims to empower these stakeholders to better prepare for and adapt during crises affecting health systems in their own context.

Methods

Mixed-methods study with three iterative phases (Figure 1). Firstly, a literature review was conducted to map disruptions and innovations during the COVID-19 pandemic and to learn from them by applying a resilience lens. Secondly, a survey targeting a large community of cardiologists (EuroPCR) was conducted to identify adaptations during the pandemic. The development of the survey was informed by the literature review, including international reports about health systems resilience. It has received input from the RESIL-Card Consortium, including cardiologists, public health specialists, and patients and professionals' organisations. The survey questions were discussed in four face-to-face cognitive testing interviews. Survey data was analysed with descriptive statistics. Thirdly, five focus groups were convened with stakeholders across Europe from three levels of health systems decision-making – clinical, managerial, and policy levels, including patient representatives. Thematic analysis was conducted to identify themes to assess and strengthen resilience.

Results

From the literature, six dimensions of resilience were identified: 'workforce', 'care delivery', 'governance and trust', 'communication and cooperation', 'medical devices and products', 'data collection and use'. In the survey, 177 responses were obtained, mostly from Italy (n = 47;27%) and Spain (n = 43;24%). Core themes to enhance resilience were identified and characterised (Figure 2). Regarding the 'workforce', the themes identified were: workforce shortages, workforce health protection, and staff reallocation. Patient safety and prioritisation of CV care, infrastructure repurposing, innovations, and reorganisation of care pathways were highlighted regarding 'care delivery'. Investing in 'communication' with various sectors of health and society was highlighted. Preparation of decision-making processes, tools, and ensuring trust were identified in relation to 'governance'. Regarding 'data', agreeing on data to enable decision-making and investing in data infrastructure were the themes identified. Strategies to address supply chain bottlenecks and flexible solutions for the lack of equipment were the themes identified regarding 'medical devices'. The RESIL-Card tool provides guidance to define the care pathway and their actors. Drawing on the themes and sub-themes, a practical preparedness checklist was developed alongside key recommendations for professionals at managerial and clinical levels to identify and address areas for improvement.

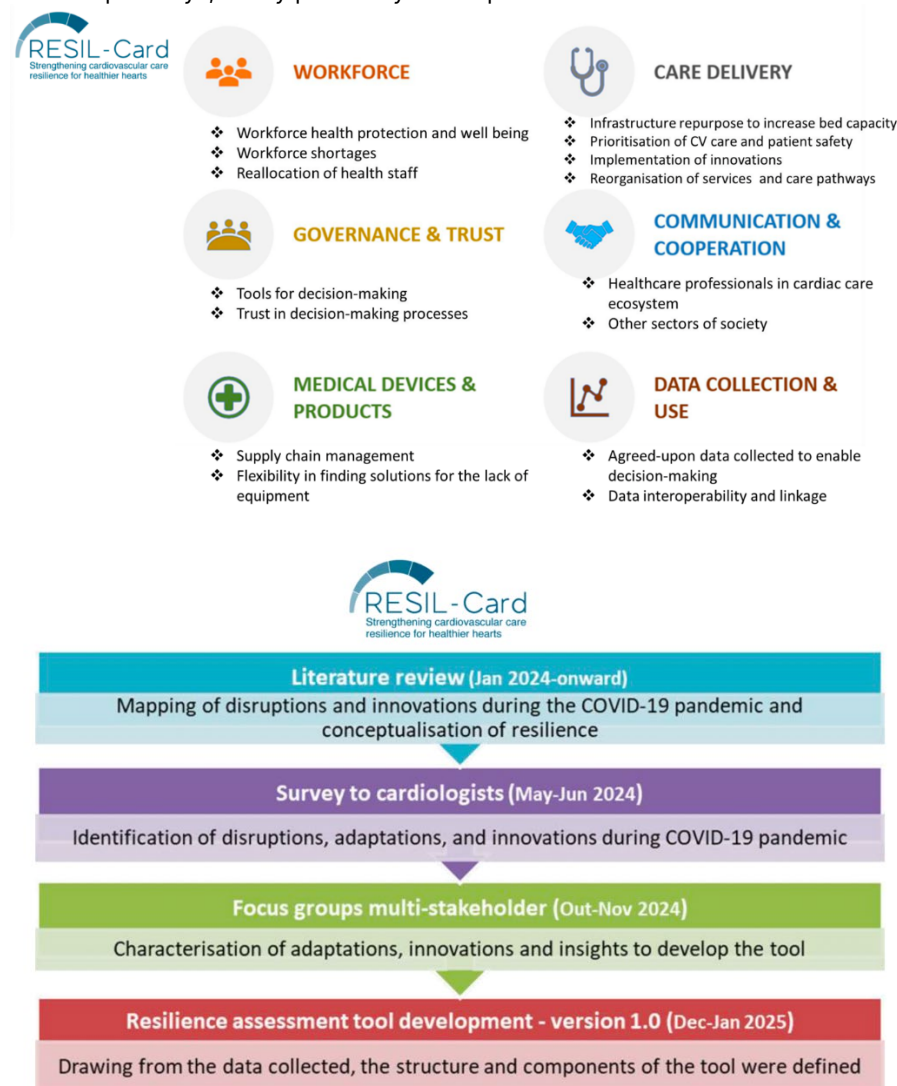
Conclusion

The first version of the RESIL-Card tool was developed through a participatory process, engaging with stakeholders from the cardiovascular care ecosystem across various European countries. This collaborative and inclusive approach aimed to foster a strong sense of ownership among participants, while also ensuring that the tool was designed with a focus on actionability. Supported by the tool's guidance and resources, end-users may conduct a self-assessment preparedness exercise and

define an action plan to improve resilience in their specific context, while engaging with other key actors, including patients and their communities. The pilot of the RESIL-Card tool will be conducted in the next phase of the project to ensure its fitness for use and purpose. Although the tool is tailored to European CV care pathways, it may potentially be adapted and tested in

other geographies and clinical settings, contributing to the development of more patient-centred and equitable health systems across Europe and globally.

Conflicts of interest related to this abstract: None.



P-2044

Engaging and Retaining the Healthcare Workforce: Advancing the Audiology Assistant Career Ladder to Hearing Aid Specialist.

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Introduction

The healthcare industry faces significant challenges in workforce recruitment, engagement, and retention, particularly in specialized fields like audiology. As the demand for hearing healthcare services grows, establishing structured career pathways is essential to maintaining a skilled workforce. The University of Miami Department of Otolaryngology has implemented a structured career ladder to support Audiology Assistants in progressing to Hearing Aid Specialists. This initiative aims to enhance job satisfaction, professional development, and workforce retention while improving patient outcomes. By

addressing staffing gaps and providing clear career advancement opportunities, the program aligns with broader healthcare workforce development strategies. Research suggests that well-defined career pathways contribute to long-term job stability and employee engagement. This study evaluates the impact of career progression frameworks on workforce retention and the professional fulfillment of audiology personnel.

Aim/Objective(s)

The primary objectives of this abstract are: To assess workforce challenges related to recruitment, engagement, and retention in audiology. To evaluate the effectiveness of structured career ladders in enhancing job satisfaction and workforce stability. To analyze key factors that support successful career transitions from Audiology Assistant to Hearing Aid Specialist. To propose strategic initiatives for fostering career development that improves employee retention and overall patient outcomes. This research aims to provide evidence-based recommendations on the role of mentorship, skill development, and education in supporting career progression. By examining existing career transition programs and their outcomes, this

study contributes to developing policies that promote sustainable workforce engagement.

Methods

This study utilizes a mixed-methods approach, combining qualitative and quantitative data collection. A survey was conducted among audiology assistants and hearing aid specialists across multiple healthcare facilities to assess job satisfaction, career progression, and retention rates. Additionally, focus groups and in-depth interviews with industry professionals provided qualitative insights into career development experiences. Data collection involved structured questionnaires, performance assessments, and career progression tracking over five years. Statistical tools, including regression analysis and thematic coding, were used to evaluate trends and identify key factors influencing job satisfaction and retention. Comparative analysis between facilities with structured career ladders and those without helped determine the effectiveness of career progression programs.

Results

The study found that audiology assistants following a structured career path to hearing aid specialists experienced significantly higher job satisfaction (75%) and long-term career stability (82%). Facilities with defined career ladder programs observed a 15% increase in workforce retention over five years compared to those without. Key factors contributing to successful career progression included mentorship programs, accessible educational curricula, and financial incentives. Additionally, structured training pathways enhanced skill development, ensuring workforce readiness for advanced roles. Participants expressed increased motivation and commitment when provided with clear professional growth opportunities. The data also indicated that organizations investing in career ladders reported improved patient satisfaction due to reduced staff turnover and enhanced continuity of care.

Conclusion

Implementing a structured career ladder from Audiology Assistant to Hearing Aid Specialist directly addresses workforce retention challenges in audiology. This model reduces staffing shortages, enhances job satisfaction, and ensures a steady pipeline of skilled professionals. By fostering career development, healthcare organizations can improve workforce stability and patient care quality. The study's findings support policy initiatives that prioritize career advancement pathways in allied health professions, offering an innovative solution to workforce shortages. Additionally, this framework serves as a model for other specialized healthcare fields, demonstrating that investment in structured career development leads to tangible benefits in employee retention and service efficiency. Aligning with broader healthcare workforce strategies, this initiative contributes to a sustainable and resilient healthcare system, ensuring long-term improvements in both workforce engagement and patient outcomes.

Conflicts of interest related to this abstract: None

P-2045

Enhanced transdisciplinary communication to improve the efficiency of Methicillin-resistant Staphylococcus Aureus eradication for renal patients in Hong Kong

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Introduction

Methicillin-resistant Staphylococcus Aureus (MRSA) may colonise renal patients, who are mostly immunocompromised. MRSA episodically causes morbidity and mortality through catheter-related bloodstream infections (CRBSI) and peritoneal dialysis (PD) peritonitis. Therefore, timely screening and early eradication of MRSA carriage are critical. A transdisciplinary continuous quality initiative (CQI) program intends to improve the efficiency of MRSA eradication at Caritas Medical Centre (CMC) since January 2024.

Aim/Objective(s)

To enhance transdisciplinary communication to improve the efficiency of MRSA eradication program for renal patients

Methods

All patients planned for kidney replacement therapy (KRT) were screened for MRSA carriage while patients on chronic haemodialysis (HD) with catheters received screening every 3 months. All laboratory requests were made through the electronic Generic Clinical Request System (GCRS), which automatically notified the renal team head of the results. The infection control team also sent encrypted emails to inform the clinical team of any positive MRSA culture timely. Lastly, a transdisciplinary HA chat (a corporate instant messaging platform) communication group including renal doctors, nurses, ward manager, and infection control team professionals was created. The renal MRSA management (nursing) team promptly reviewed case records formulated appropriate eradication plans and communicated across disciplines through HA chat with documentation in the Clinical Management System (CMS). Doctors would then prescribe drugs for eradication while nurses would arrange re-testing and communicate with all disciplines in case eradication failed.

Results

From January to June, 2024, MRSA was isolated from 864 specimens at CMC. A total of 1069 MRSA nasal swab screenings were performed, of which 104 specimens were on renal patients. In 24 renal patients (3 female, 21 male) with mean ($\pm$ standard deviation) age of 68.3 ± 11.6 , MRSA was detected in 15 nasal swabs and 20 other specimens (sputum, wound swab and peritoneal fluid). Five patients were on hemodialysis (HD) while 19 were on PD. Fourteen patients (58.3%) were considered appropriate for MRSA eradication. The median time to eradication was 33.5 days (interquartile range 18.0–46.8 days). The eradication rate, as determined by repeat nasal swabs, wound swabs or clinical specimens 2 days and 9 days after completion of eradication, was 50%. The MRSA bacteremia episode had remained 0 in the first half of 2024, compared with 3 in 2023. In the staff satisfaction survey, all renal physicians and the majority of nurses agreed that early MRSA eradication improved outcomes of renal patients, the transdisciplinary communication group contributed to effective communication and improved the efficiency of MRSA eradication. 100% of renal physicians strongly believed the communication system was

well devised and markedly enhanced the eradication rate and timeliness.

Conclusion

This CQI ensured timely and flawless MRSA case identification and earlier eradication through improved transdisciplinary communication with multiple strategies.

Conflicts of interest related to this abstract: None

P-2046

Enhancing Barcode Medication Administration Compliance: A Multi-Faceted Approach to Process Improvement and Accountability

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Introduction

In September 2023, our facility's Barcode Medication Administration (BCMA) compliance score stood at 93%, falling short of the target of 95%. A comprehensive process compliance review was conducted to identify the root causes of non-compliance. Key challenges included unreadable or missing barcodes on medications, preventing accurate scanning. Additionally, barcode scanners were often unavailable or malfunctioning, disrupting workflow and increasing the likelihood of manual medication administration, which poses a risk to patient safety. Further analysis revealed that staff were not consistently reporting these issues, leading to delays in troubleshooting and resolution. The lack of a standardized communication process for escalating barcode-related problems also contributed to persistent inefficiencies. These findings underscored the need for targeted interventions, including improved barcode accessibility, enhanced scanner maintenance, and better reporting mechanisms. Addressing these challenges was essential to ensuring accurate medication administration, improving patient safety, and achieving sustained compliance with BCMA protocols.

Aim/Objective(s)

1. Improve BCMA Compliance Across the Institute

- Enhance adherence to barcode scanning protocols through training, accountability, and standardized reporting.
- Foster a culture of ownership by engaging staff in compliance tracking and ward-level initiatives.

2. Reduce Medication Barcode Overrides

- Identify and address workflow inefficiencies, system limitations, and staff non-compliance.
- Provide targeted education and improve scanning technology to minimize manual barcode entry.

3. Minimize Medication Administration Errors

- Strengthen patient safety by ensuring consistent and accurate barcode scanning.
- Implement real-time error reporting and resolution mechanisms.
- Collaborate with clinical and IT teams to resolve BCMA-related challenges and promote sustainable quality improvements.

This project aims to enhance medication safety, reduce errors, and optimize barcode scanning efficiency across the institute.

Methodology: A mixed-methods approach was used, combining quantitative data analysis with qualitative insights from clinical staff.

Participants and Sampling: Nurses, ward managers, charge nurses, and pharmacists from multiple wards were selected using purposive sampling, focusing on units with low BCMA compliance and high barcode override rates.

Data Collection

- Quantitative Data: Extracted from the BCMA system, including compliance rates, override frequencies, and medication error reports.
- Qualitative Data: Gathered through staff surveys and focus groups to identify barriers and improvement opportunities.

Tools Employed

- BCMA compliance reports and medication safety incident logs.
- Staff feedback through structured interviews and surveys.

Data Analysis

- Descriptive and comparative statistics to assess trends.
- Thematic analysis to interpret qualitative insights.

This approach provided a comprehensive understanding of BCMA challenges and guided targeted interventions.

Key Findings and Impact: Our interventions have significantly improved BCMA compliance, reduced barcode overrides, and strengthened accountability.

Medication Override Reduction: In September 2023, nearly 5% of administered medications were overridden due to unreadable barcodes – the top reason for overrides. Over time, these rates steadily declined due to system optimizations and staff training.

BCMA Compliance Milestones: By April, we exceeded our 95% compliance target across all clinical departments and have maintained this high standard, demonstrating long-term sustainability.

Compliance vs. Overrides: As BCMA compliance improved, override rates decreased, confirming the direct impact of barcode scanning adherence.

Cultural Shift and Lessons Learned

- Compliance is now regularly discussed in ward meetings and nursing huddles.
- Ward managers and charge nurses independently analyze and act on compliance data.
- Nurses engage in friendly competition by tracking their performance on patient safety and quality dashboards.
- A standardized reporting tool has improved issue resolution for barcode and scanning problems.

Sustainability and Scalability: BCMA scanning is now essential for safe medication administration, optimizing workflows and freeing nurses for patient care. Real-time dashboards and advanced analytics in performance reviews will ensure long-term accountability and integration into daily practice. This project has fostered ownership, sustainability, and improved patient safety.

Conclusion

This project has significantly improved BCMA compliance, reduced barcode overrides, and minimized medication errors, addressing the initial challenges of inconsistent scanning practices and patient safety risks. By fostering accountability and data-driven decision-making, BCMA compliance has become an integral part of daily clinical routines. These improvements enhance health services by reducing preventable medication errors, optimizing nursing workflows, and standardizing medication administration. The use of real-time dashboards, structured reporting tools, and staff engagement has transformed BCMA compliance into a sustainable, staff-led initiative. From a policy and practice perspective, this project has introduced structured governance, ensuring compliance discus-

sions in ward meetings, nursing huddles, and performance reviews. Integrating BCMA analytics into nursing competencies further promotes data-driven clinical decisions. This initiative also lays the groundwork for future research, exploring BCMA's long-term impact on medication safety and workflow efficiency. By embedding BCMA best practices into daily operations, we ensure sustained improvements in patient safety and quality of care.

Conflicts of interest related to this abstract: None

P-2047

Enhancing Diabetes Care for Optimal Patient Outcomes by opening Diabetic Center in Dibba Hospital

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Introduction

Due to the increasing rates of diabetes in our Hospital and the availability of only one clinic for diabetes follow-up at the hospital, along with repeated patient complaints about the lack of available appointments, it has become necessary to improve the experience and satisfaction of diabetic patients at the hospital. This has led to the need for an integrated diabetes center to meet their therapeutic and continuous follow-up needs. The initiative aims to establish a comprehensive diabetes center at the hospital, encompassing various specialties and implementing approved policies and protocols for the diagnosis, treatment, and follow-up care of diabetic patients. Develop a comprehensive, multidisciplinary diabetes care model in Dibba Hospital to improve process and outcome KPIs by addressing resource gaps, workflow inefficiencies, and patient engagement challenges.

Aim/Objective(s)

The objective of this project is to establish a comprehensive Diabetes Center to address the increasing prevalence of Type 2 Diabetes Mellitus and improve the quality of care provided to diabetic patients. The key aims include:

1. Enhance Care Delivery: To provide structured, targeted care plans for T2DM patients, ensuring timely follow-ups, comprehensive assessments, and specialized services such as dietitian, podiatrist, and ophthalmologist consultations.
2. Improve Patient Engagement and Satisfaction: To reduce long waiting lists and patient disengagement, addressing patient dissatisfaction and retention.
3. Address Staffing Gaps: To recruit essential healthcare professionals, such as a diabetic educator, dietitian, and additional physicians, to reduce the current burden on the facility.
4. Optimize Clinical Outcomes: To improve diabetes management and key performance indicators, including HbA1c control, blood pressure, lipid management, and diabetic complication screenings.
5. Follow-Up Mechanisms: To ensure regular and structured follow-ups, improve patient adherence, and reduce missed tests and screenings.

Methods

Establishing the comprehensive Diabetes Center focuses on creating a multidisciplinary care team and optimizing the delivery of care as follows:

1. Multidisciplinary Care Team: team including diabetic educators, dietitians, podiatrists, ophthalmologists will be formed to ensure holistic care for patients, covering education, dietary advice, glycemic control, complication screening.

2. Standardized Protocols: Evidence-based guidelines will be implemented for T2DM management, including testing intervals, education sessions to ensure consistency in care.
3. Enhanced Follow-Up and Screening: AI-driven alerts will notify both providers, patients about overdue tests, appointments. A follow-up system will address missed visits.
4. Patient Education: Multilingual educational materials, developed structured diabetes self-management programs.
5. Technological Support: Point-of-care HbA1c testing, continuous glucose monitoring systems will be integrated.
6. Staff Capacity Building: Continuous training and additional recruitment (dietitians, educators) will ensure an effective workforce.
7. Optimized Clinic Scheduling: Dedicated clinic slots for diabetes care and walk-in education consultations will reduce waiting times.

Results

Facilitating the patient's journey by incorporating all specialties and clinics related to diabetes services and directing all diabetic patients for follow-up in one place (Diabetes Center) and standardized protocols and guidelines for Diabetes management and Staff training on diabetes care. Actively promote the center's services and capabilities to increase the number of patients seeking care from (2380) patients during the year 2023 up to (5298) patients during 2024. Improve Patient Satisfaction and Experience and Implement structured diabetes self-management education programs and provide multilingual resources. Developing multilingual education materials Streamlined Service Delivery and Reduce waiting times and enhance appointment scheduling through efficient clinic management.

Sustaining Successful Improvements in Key performance measures in 2024 as:

1. HbA1c Testing: Achievement: Exceeded expectations in Q4 at 92.86%, surpassing the benchmark of 90.78%.
2. LDL <1.8mmol/L: Achievement: Performance consistently exceeded the target, with Q3 and Q4 surpassing the benchmark.

Conclusion

The establishment of a comprehensive Diabetes Center directly addresses the challenges faced by patients with Type 2 Diabetes (T2DM) in Dibba Hospital. By consolidating various healthcare services and specialties, such as eye care, podiatry, nutrition, and mental health support, into one integrated center, the initiative enhances both the quality and accessibility of care for diabetes patients. This multi-disciplinary approach allows for continuous monitoring of treatment plans, early diagnosis, and better management of complications, ultimately reducing the burden of the disease. Additionally, the center's focus on improving appointment availability and reducing wait times addresses a critical gap in service delivery. This solution not only improves patient satisfaction but also leads to more efficient care, with patients receiving timely interventions. This project contributes to healthcare improvement by fostering a more patient-centered approach, aligning with global best practices for diabetes care. It introduces innovations in care delivery and enhances healthcare policy through improved management of resources and patient care protocols. By expanding access to comprehensive care, the center has the potential to influence future policy, practice, and research, promoting sustainable healthcare solutions for chronic conditions like diabetes.

Conflicts of interest related to this abstract: None

P-2048**Enhancing Environmental Conditions in Divine Grace Medical Center (DGMC)**

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Introduction

At DGMC, our initiatives to monitor and manage the work environment exemplify healthcare excellence. A key strategy involves systematically monitoring indoor air quality, illumination, and sound levels. During the pandemic, our indoor air quality monitoring directly contributed to lower infection rates among healthcare workers. By implementing efficient ventilation systems and regularly assessing air quality, we created a safer environment, reducing airborne pathogen transmission. Additionally, controlling sound levels and optimizing lighting have improved workspace productivity and employee well-being. These measures are innovative because they integrate multiple environmental aspects to create a holistic approach to health and safety. Many hospitals overlook such initiatives due to a lack of awareness about potential revenue increases and long-term benefits. At DGMC, we understand that these measures reduce incident rates, improve patient safety, and expedite patient admissions. Our commitment to these initiatives positions us as a leader in healthcare, demonstrating our dedication to quality care for both patients and staff.

Aim/Objective(s)

The objective of this project at DGMC was to enhance the work environment by improving indoor air quality, illumination, and sound levels. The goals were to reduce infection rates, increase employee satisfaction, and optimize operational efficiency. Using a data-driven approach, we aimed to identify and address factors affecting employee well-being and patient outcomes, creating a safer and more productive workplace.

Methods

We employed a mixed-methods approach to assess and improve the work environment at DGMC, combining quantitative analysis of incident reports, infection rates, and patient turnover with qualitative staff feedback through surveys and observations. The project involved healthcare staff from various departments, including nurses, physicians, administrative, and support teams. We analyzed 7.14% of incident reports from the current year to identify patterns in patient safety events. Data collection included quarterly monitoring of indoor air quality, lighting, and noise levels using specialized sensors, alongside tracking infection rates, especially during the pandemic, to evaluate the impact of environmental measures. Staff feedback was gathered through surveys assessing job satisfaction and well-being. Tools used included air quality sensors, lighting meters, noise decibel meters, and data analytics for trend analysis and regression analysis. Findings were reported to management, and recommendations led to improvements across departments, resulting in a healthier work environment.

Results

DGMC's commitment to a healthy and productive work environment has yielded significant results. By prioritizing measures such as indoor air quality, illumination, and sound levels, we've reduced infection rates, boosted employee satisfaction, accelerated patient turnaround times, and lowered healthcare costs.

This innovative approach has positioned DGMC as a leader in healthcare excellence, creating a healthier, more inspiring workplace for employees and patients alike. Several innovative aspects enhanced the project's effectiveness, including the use of measurement tools to assess air quality, lighting, and noise levels. Real-time monitoring allowed for prompt adjustments, while a data-driven approach identified trends between environmental factors and patient outcomes. A comprehensive training program equipped staff with the skills to use these tools effectively. A cost-effective approach was also key. With minimal investments, the project developed into a broader initiative aimed at improving the work environment. Data analysis enhanced effectiveness, setting a precedent for future initiatives across hospitals. Key findings include reduced healthcare worker infections, improved operational efficiency, lower utility costs through energy-efficient lighting, and better staff satisfaction and retention. The project also contributed to environmental sustainability by reducing energy consumption and carbon footprint, showcasing DGMC's commitment to health, efficiency, and sustainability.

Conclusion

This project highlights the importance of monitoring and managing the work environment to enhance patient safety and staff well-being. By measuring factors like indoor air quality, illumination, and noise levels, we identified areas that directly impact both operational efficiency and healthcare outcomes. The data-driven approach has shown how environmental factors influence patient recovery and staff morale, demonstrating the value of evidence-based decision-making in healthcare management. Looking forward, we plan to expand our measurements to include ergonomic assessments and heat stress indices, ensuring a more comprehensive approach to work environment monitoring. Regular training will also be implemented to enhance staff awareness and engagement. Additionally, an interdisciplinary committee will oversee ongoing assessments, fostering collaboration across departments for continuous improvement. This initiative contributes to healthcare practice by advocating for standardized environmental assessments, paving the way for improved hospital standards and regulatory guidelines. The project may also inform future research on the long-term effects of environmental factors on patient and staff health, providing valuable data for further improvements. In conclusion, this project's focus on continuous monitoring, staff training, and interdisciplinary collaboration positions DGMC as a leader in creating a healthier, more efficient healthcare environment.

Conflicts of interest related to this abstract: None

P-2049**Enhancing Laboratory Safety for Individuals Monitored by Integrated Clinical Alarm Systems: Improvements Through Flow Manager Implementation and Systematic Education**

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Introduction

The General Radiography Unit 1, Department of Radiology, Asan Medical Center, Seoul, Republic of Korea, with a monthly average of 111,000 patient visits, is particularly vulnerable to safety issues because radiologic technologists operate without medical supervision. Hospital regulations require that medical staff accompany individuals wearing integrated clinical alarm systems during transfers to examination rooms. However, a 2023

audit revealed that 259 (37.6%) of approximately 700 safety incidents involved non-compliance with this requirement. The emphasis of the Joint Commission's National Patient Safety Goals of improving patient safety and service quality indirectly highlight the importance of medical staff accompaniment. Additionally, "alarm fatigue," in which alerts are ignored, has emerged as a serious safety threat.

Aim/Objective(s)

This study aimed to enhance the safety of individuals monitored by the integrated clinical alarm systems by creating a more secure examination environment. We sought to reassess examination room and waiting area environments, review processes, evaluate staff awareness of patient safety protocols, and actively educate patients and guardians to facilitate their understanding of and participation in the examination process. Beyond providing education and improving the traditional examination process, we introduced an innovative "Flow Manager" role to overcome existing system limitations. These approaches enable the transitioning from passive monitoring to active management of patient flow. The dedicated personnel assignment in a large-scale examination facility represents a pioneering approach, rarely encountered in domestic or international settings. Ultimately, this study aims to establish a safety culture aligned with the WHO International Patient Safety Goals.

Methods

We implemented a multifaceted improvement strategy from July 2023 to September 2024. System enhancements included the refining of the process, from prescription (AMIS OCS 3.0_project) to reception (self-service kiosk), while introducing a dedicated Flow Manager to oversee patient safety throughout the examination process. We developed and delivered customized educational materials to 60 staff members and approximately 100 patients and guardians to strengthen the patient safety culture. Additionally, we collaborated with an e-MET team (emergency monitoring specialists) and improved the waiting environments. The e-MET team addresses ward staffing shortages while providing real-time monitoring during patient transfers. To evaluate effectiveness, we analyzed patient safety incidents (pre: July–December 2023, post: February–September 2024) and measured changes in staff awareness (n = 54, pre: March 2024, post: September 2024), and patient/guardian awareness (n = 63, pre: April 2024, post: September 2024) using 5-point scale surveys.

Results

Our study confirmed significant improvements in medical staff accompaniment compliance rates and safety for individuals monitored by the integrated clinical alarm systems. Violations of medical staff accompaniment regulations decreased by 86%, while the accompaniment rate increased dramatically from 2.74% pre-implementation to 89.47% post-implementation. Staff awareness improved across multiple dimensions as follows: risk perception increased by 10.76%, self-efficacy by 18.91%, and awareness of preventive regulations and systems by 25.99%. Patient and guardian awareness showed improvements in risk perception (54.65% increase), trust in the medical system (12.66% increase), and understanding of examination processes (improved to 5 points). These various metric improvements resulted in a 72.3% reduction in clinical incidents, along with decreased examination waiting times and significantly enhanced staff satisfaction.

Conclusion

This study demonstrates that the "Flow Manager" role introduction, along with the systematic education programs, effectively enhanced safety for individuals monitored by the integrated clinical alarm systems. Particularly, system improvements and awareness enhancement through education effectively in-

creased medical staff accompaniment and reduced safety incidents. Based on our findings, this successful approach has been expanded to other departments with similar challenges, including computed tomography, magnetic resonance imaging, and ultrasound units, using a standardized protocol developed for hospital-wide implementation. Future strategies should include a mobile notification system for confirming guardian accompaniment and improved wayfinding applications to navigate the complex hospital structure.

Conflicts of interest related to this abstract: None

P-2050

Enhancing Neurological and Trauma Rehabilitation at Al Iman General Hospital: A Specialist Care Model for Saudi Arabia

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Introduction

Specialist rehabilitation improves health outcomes and reduces long-term disability. In Saudi Arabia:

- Spinal Cord Injury (SCI) incidence: 62 cases per million annually (Saudi MOH 2023).
- Stroke prevalence: 29% of the population is at risk, with approximately 75% requiring rehabilitation (Saudi Stroke Society 2023).
- Advances in thrombolytic therapy at AIGH have reduced stroke mortality by 25%, but many survivors need long-term rehabilitation.
- Traumatic Brain Injury (TBI) remains the leading cause of disability among young adults, mostly due to RTAs near AIGH.

Before 2022, AIGH offered only outpatient physical therapy, creating gaps in post-acute interdisciplinary rehabilitation. This project established a Specialist Rehabilitation Center to address these growing needs.

Aim/Objective(s)

- Provide early, interdisciplinary rehabilitation to reduce acute hospital stays by five days or more.
- Achieve a home discharge rate of at least 75% for stroke, TBI, and SCI patients.
- Reduce referral-to-admission waiting times to 48 hours or less.
- Improve Functional Independence Measure (FIM) scores by at least 30% for neurological patients.

Methods

Methods

A phased rehabilitation ward expansion was implemented from 2022 to 2024:

- 5 beds in 2022, increasing to 20 beds in 2024.
- Integrated services including Physical Medicine, Occupational Therapy, Speech Therapy, Psychology, and Social Services.

Study Design

A quasi-experimental comparison between pre-rehabilitation patients (2019–2021, n = 150) and post-rehabilitation cohort (2022–2024, n = 362) assessed:

- Length of Stay (LOS): Acute care vs. rehabilitation-inclusive care.
- Discharge outcomes: Home vs. institutional care.
- FIM improvement: Pre- and post-rehabilitation mobility/self-care scores.
- Referral-to-admission efficiency: Time tracking for patient access.

Data Analysis: Conducted using SPSS v28, with paired t-tests (LOS), chi-square (discharge rates), and ANOVA (FIM improvement). Statistical significance was set at $p < 0.05$.

Results

- LOS Reduction: Rehabilitation patients had 4.8 fewer acute care days compared to pre-intervention ($p = 0.003$).
- Home Discharges: 78% of rehabilitation patients were discharged home compared to 45% pre-intervention ($p < 0.001$).
- FIM Improvement: Stroke patients showed a 32% increase ($p = 0.01$), while TBI/SCI patients improved by 28% ($p = 0.02$).
- Referral-to-Admission Time: Improved from 7 days in 2022 to 2.5 days in 2024.
- Financial Impact: Estimated \$1.2 million annual cost savings due to reduced hospital stays and increased home discharges.

Conclusion

AlGH's Specialist Rehabilitation Center has significantly improved patient outcomes, operational efficiency, and healthcare cost-effectiveness. The project aligns with Saudi Vision 2030 by enhancing rehabilitation services within acute care settings.

Policy & Systemic Recommendations

- Mandating rehabilitation assessment within 48 hours for stroke, TBI/SCI patients.
- Expanding early rehabilitation to three additional hospitals in the Riyadh Health Cluster.
- Integrating FIM as a national rehabilitation outcome measure.

This model serves as a scalable blueprint for embedding rehabilitation in acute care facilities across Saudi Arabia.

Conflicts of interest related to this abstract: None

P-2051

Enhancing Nursing Leadership and Patient Care Through NANDA Protocol Integration and Standardized Care Plans

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Introduction

The quality of nursing care directly impacts patient outcomes and satisfaction. However, inconsistent documentation, limited nurse autonomy, and variations in care planning hinder optimal service delivery. Well-conceived patient care plans are crucial for high-quality nursing care, yet writing them can be time-consuming. Computerization enhances the speed, quality, and effectiveness of creating patient-specific care plans. As a Joint Commission International (JCI)-accredited hospital, we prioritize standardized processes and evidence-based interventions. NANDA (North American Nursing Diagnosis Association) protocols provide a structured approach to nursing diagnoses, ensuring consistency and improving clinical decision-making. By implementing these protocols, healthcare institutions can optimize patient outcomes, improve documentation accuracy, and enhance nursing efficiency. This project integrated NANDA protocols into nursing workflows to enhance care delivery, improve documentation, and strengthen nurse leadership. The goal was to align nursing practices with international standards, fostering a culture of evidence-based decision-making and professional growth.

Aim/Objective(s)

The primary objective was to enhance nursing competency in patient problem identification, care planning, and independent

decision-making. Specific aims included: (1) conducting structured training on NANDA protocols; (2) integrating standardized nursing diagnoses into the hospital's Health Information System (HIS); (3) developing and implementing evidence-based care plans for common conditions (e.g., acute coronary syndrome, joint replacements, cataract surgery); and (4) assessing patient satisfaction regarding nursing care and communication using validated tools such as the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey and a custom Nursing Communication Satisfaction Index.

Methods

A three-phase implementation strategy was used:

- Phase 1: Comprehensive NANDA protocol training for nursing staff, including workshops and case-based learning.
- Phase 2: Integration of NANDA classifications into the HIS, enabling real-time access to standardized care plans.
- Phase 3: Application of structured care plans in high-frequency clinical scenarios, coupled with monitoring through patient satisfaction surveys, documentation audits, and staff feedback mechanisms. Data collection included patient satisfaction scores, documentation accuracy rates, and nurse self-assessment surveys. Statistical analysis was performed to measure the impact of these interventions.

Results

Key findings demonstrated significant improvements in nursing performance and patient satisfaction:

Clinical Impact:

- 33% reduction in nurse requests for on-call physicians, indicating improved nursing autonomy and decision-making.
- 30% decrease in documentation errors for myocardial infarction cases and 20% improvement in acute coronary syndrome treatment documentation accuracy.

Patient Satisfaction:

- HCAHPS nursing care satisfaction scores increased by 18%, with notable improvements in perceived attentiveness and communication clarity.
- The Nursing Communication Satisfaction Index reflected a 20% rise in patients' positive feedback on nurse-patient interactions.

Staff Empowerment:

- Nurse leadership perception scores improved by 15% in the annual team evaluation.
- Staff surveys indicated a 20% increase in nurse confidence and role satisfaction post-intervention.

Conclusion

The integration of NANDA protocols and standardized care plans substantially improved nursing performance, patient care quality, and professional satisfaction. This initiative reinforced structured clinical decision-making, reduced physician dependency, and enhanced documentation precision. The seamless HIS incorporation ensured sustainability, supporting a long-term shift toward standardized nursing practices. By aligning with JCI accreditation standards, the project provided a scalable model for healthcare institutions aiming to enhance nursing care quality, optimize workflows, and elevate patient experiences through evidence-based methodologies. The findings underscore the transformative potential of structured protocols in professionalizing nursing practice and fostering a high-reliability healthcare environment.

Conflicts of interest related to this abstract: None

P-2052**Enhancing Patient Outcomes: A Seamless Approach to Transfusion Safety through Comprehensive Verification and Record Management for Healthcare Excellence**Ms Daisy Yat See AU Health informatician*Hong Kong Hospital Authority, Hong Kong***Introduction**

Blood transfusion is a critical medical procedure that plays a crucial role in patient survival, especially during surgical interventions and in managing various health conditions. Although it is generally considered safe, errors like patient misidentification can result in serious and potentially life-threatening consequences. Recognizing this risk, the Central Committees on Transfusion Service of the Hong Kong Hospital Authority has proactively sought to improve transfusion safety. In 2024, the committee collaborated with the Health Informatics & Information Technology team to create the "Transfusion App." This innovative in-house IT solution is designed to strengthen patient identification processes and digitize transfusion records, ultimately aiming to enhance the overall safety and efficiency of blood transfusion practices.

Aim/Objective(s)

Blood transfusion is an essential medical procedure vital for patient survival, particularly during surgeries or for treating various health conditions. While generally safe, risks arise from patient misidentification, which can result in severe adverse outcomes. To address this critical issue, the Hong Kong Hospital Authority has launched the "Transfusion App," an innovative electronic transfusion and record system aimed at enhancing transfusion safety across its 43 public hospitals. This project seeks to integrate advanced IT solutions to streamline the transfusion process, ensuring accurate patient identification and minimizing human errors. By leveraging electronic health records and barcode-assisted verification, the initiative aims to align with global best practices from organizations like WHO, NICE, and NHS. Ultimately, the project strives to improve patient safety, reduce transfusion-related errors, and promote a culture of safety within the healthcare system, thus enhancing overall healthcare delivery in Hong Kong.

Methods

To create an effective in-house IT solution for blood product administration, the Central Coordinating Committee on Transfusion formed a multidisciplinary working group. This team included key stakeholders from various fields, such as medicine, nursing, hematopathology, and information technology. Their collaborative efforts focused on identifying critical areas for improvement in transfusion safety. The group outlined several essential functionalities for the system, including:

- 1) a robust patient-to-product compatibility verification process featuring hard-stop warnings to prevent invalid administrations;
- 2) a mandatory two-person verification protocol for all blood administration procedures, ensuring an added layer of safety; and
- 3) real-time access to both product and patient data, facilitating seamless documentation and enhancing communication among healthcare professionals.

This comprehensive methodology aims to significantly reduce transfusion-related errors and improve overall patient safety by leveraging interdisciplinary insights and advanced technological solutions.

Results

Through a series of iterative prototype reviews and proactive stakeholder engagement, the project has prioritized transparency and trust, effectively addressing concerns and fostering

collaboration among participants. The minimal viable product has undergone refinement through 11 interactive scenarios, ensuring a user-centered design that meets the specific needs of its users. The Transfusion App is set to be adopted at a university teaching hospital in summer 2025, paving the way for broader implementation across all 43 public hospitals in Hong Kong. This initiative highlights the transformative potential of technology in enhancing patient safety within healthcare settings. By directly addressing critical challenges in blood transfusion processes, the project aims to significantly improve both the accuracy and efficiency of transfusions. This not only enhances patient outcomes but also creates a win-win-win situation from clinical, informatics, and management perspectives. The promising results anticipated from this initiative underscore the importance of innovative solutions in modern healthcare, reinforcing the commitment to continuous improvement and patient safety.

Conclusion

The development of the Transfusion App represents a significant advancement in addressing the critical issue of patient misidentification in blood transfusions. By fostering transparency and collaboration through iterative prototype reviews and engaging key stakeholders, the project has created a user-centered design that meets the needs of healthcare professionals. The app is set to be launched at a university teaching hospital in summer 2025, with plans for broader deployment across all 43 public hospitals in Hong Kong. This initiative not only enhances patient safety but also serves as a catalyst for health service improvement by streamlining transfusion processes. By ensuring accurate and efficient transfusions, the app aims to reduce errors and improve clinical outcomes. Additionally, it offers an innovative contribution to healthcare policy and practice by establishing a robust framework for integrating technology into medical protocols. This effort promotes standardized procedures and encourages further research into transfusion safety. Ultimately, the anticipated success of the Transfusion App underscores the transformative potential of technology in healthcare, reinforcing a commitment to continuous improvement and safeguarding patient well-being across the healthcare landscape.

Conflicts of interest related to this abstract: None

P-2053**Enhancing Patient Safety Culture: Integrating Safety Standards into the MUASHIR Healthcare Quality Index in Abu Dhabi**

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Introduction

The Department of Health (DoH), as the health regulator in the Emirate of Abu Dhabi, plays a vital role in fostering a culture of safety. The integration of the Patient Safety Culture within the MUASHIR Methodology is a key objective in this effort. The MUASHIR Abu Dhabi Healthcare Quality Index is a distinctive, comprehensive, and reliable quality framework that evolved from the Jawda program, first launched in 2014. Patient Safety Culture will contribute 15% to the hospitals' scores in the Muashir Rating. Integrating this initiative into quality standards will motivate hospitals and other healthcare providers to comply with. This aligns with the WHO's global implementation efforts and has already been adopted in several countries. For example, in Singapore, patient safety is a key component of the Pay

for Performance Scheme, which incentivizes hospitals to promote desired behaviors. DoH launched the AHRQ Hospital Survey on Patient Safety Culture in May 2024.

Aim/Objective(s)

1. Raise staff awareness about patient safety as a national theme.
2. Diagnose and assess the current status of patient safety culture.
3. Identify strengths and areas for patient safety culture improvement.
4. Examine trends in patient safety culture change over time.
5. Evaluate the cultural impact of patient safety initiatives and interventions.
6. Conduct internal and external comparisons through the permitted use of database.
7. Data cleaning, verification, and analysis of all survey components.
8. Holistic facility report with a comparative result to a national database.
9. Summary report for strengths and areas for improvement
10. Have real-time monitoring and follow-up feature to monitor the progress of the survey in the hospital by the survey leader.
11. Ability to benchmark Abu Dhabi results with the national results and other similar entities all over the Emirate of Abu Dhabi.

Methods

DOH launched in May 2024 the Annual Patient Safety Culture Survey using AHRQ Hospital Survey on Patient Safety Culture. The Hospital Survey on Patient Safety Culture V2 includes a total of 32 items through 10 composites, will take approximately 10–15 minutes to complete, and can be completed by all types of hospital staff categories including housekeeping, security, nurses and physicians.

Results

Abu Dhabi's areas of strength compared internationally are Communication About Error, Hospital Management Support for Patient Safety, and Reporting Patient Safety Events. Areas for improvement include Handoffs & Information Exchange, Response to Error, Staffing And Work Pace.

AREAS OF STRENGTH FOR MOST HOSPITALS:

- Communication About Error 80.76%
- Teamwork 76.77%
- Organizational Learning – Continuous Improvement 75.23%
- Hospital Management Support for Patient Safety 74.53%
- Reporting Patient Safety Events 72.53%
- Supervisor, Manager, or Clinical Leader Support for Patient Safety 72.47%
- Communication Openness 68.98%

AREAS FOR IMPROVEMENT FOR MOST HOSPITALS:

- Handoffs and Information Exchange 62.37%
- Response to Error 53.10%
- Staffing and Work Pace 45.80%

Average Percent Positive Across All Areas: 68.26%

Overall Response Rate: 60.17%

Conclusion

the Department of Health (DoH) in Abu Dhabi is taking significant strides to enhance patient safety culture within the healthcare sector. The integration of the Patient Safety Culture into the MUASHIR Methodology reflects a commitment to improving healthcare quality and accountability. By launching the Annual Patient Safety Culture Survey in May 2024, DoH aims to assess current practices, identify strengths, and highlight areas for improvement. The survey results indicate strong communication about errors and management support as key strengths,

while challenges remain in handoffs, response to errors, and staffing dynamics. By fostering a culture of safety, DoH not only aligns with global best practices but also empowers healthcare providers to prioritize patient safety. Continuous monitoring and benchmarking against national standards will facilitate ongoing improvements, ultimately leading to enhanced health outcomes for the community. As Abu Dhabi moves forward, the emphasis on patient safety will remain central to its healthcare strategy, ensuring a safer and more effective healthcare environment for all residents

Conflicts of interest related to this abstract: None

P-2054

Enhancing patient safety through structured morbidity and mortality audits: A data-driven approach to quality improvement and system transformation.

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Introduction

Patient safety remains a global priority, with morbidity and mortality (M&M) reviews serving as essential tools for identifying systemic risks and improving healthcare quality. At Royal Hospital, a leading tertiary care center in Oman, fragmented case reviews previously limited the effectiveness of M&M audits. To address this, the hospital established the M&M Review Committee in 2013, which has continuously reviewed all mortality and morbidity cases, strengthening the safety culture and driving quality improvements. Over the years, the committee has evolved, expanding its scope and increasing multidisciplinary representation across specialties. By integrating Root Cause Analysis (RCA), clinical audits, and proactive risk management, it has led to 31 system improvements and 25 new policies in 2024, enhancing patient care and reducing preventable harm. This model provides a scalable, evidence-based framework for continuous learning, data-driven decision-making, and strengthened patient safety, aligning with Oman Vision 2040 to advance sustainable clinical excellence.

Aim/Objective(s)

The primary aim of this project is to enhance patient safety and clinical quality through a structured, data-driven morbidity and mortality (M&M) audit process at Royal Hospital, Oman. The specific objectives are to:

- Standardize M&M reviews by implementing a multidisciplinary, evidence-based framework for auditing mortality and morbidity cases.
- Identify system-wide safety gaps through Root Cause Analysis (RCA), clinical audits, and data-driven decision-making.
- Develop and implement targeted interventions, including new policies, clinical guidelines, and system improvements to reduce preventable harm.
- Enhance risk management and accountability by integrating M&M audits with hospital-wide quality and patient safety initiatives.
- Leverage automation through the AI Shifa system for real-time morbidity monitoring and improved decision-making.
- Reduce mortality rates, focusing on high-risk conditions such as sepsis and critical care complications.

This initiative strengthens the hospital's patient safety culture, aligns with Oman Vision 2040, and serves as a scalable model for sustainable healthcare excellence.

Methods

1. Standardized M&M indicators were developed to ensure unbiased case selection for audit and review.
2. Automation of indicators in Al Shifa was introduced for real-time M&M monitoring.
3. Standardized audit forms and monthly tracking lists were created to streamline the process.
4. Annual presentations were conducted to showcase committee achievements and system-wide improvements.
5. Clinical Audits & RCA workshops are scheduled twice a year to train M&M Champions.
6. Monthly case reviewer rotation was introduced, allowing Champions to gain hands-on auditing experience.
7. Annual hospital-wide recognition awards were established, including:
 - Leadership Award
 - Exceptional Contribution Award
 - Best Audit Report Award
 - Lifelong Service Award
8. Annual surveys were introduced to assess M&M Champions' experience in the auditing process, identify challenges, and ensure continuous system refinement for a smoother & effective workflow.
9. Developed a structured audit framework, comprises 32 multidisciplinary professionals responsible for systematic M&M reviews.

Results

The M&M Review Committee has led to significant advancements in patient safety and system-wide improvements at Royal Hospital. In 2024, a total of 1056 mortality cases were reported, with 100 cases audited, alongside 328 morbidity cases. These reviews identified key system gaps, resulting in 31 system improvements and 25 new policies aimed at patient safety:

- Improved sepsis management through updated screening protocols and enhanced guideline adherence.
- Reactivation of the Critical Care Outreach Team to improve early intervention.
- Formation of the Pediatric Difficult Airway Team for improved pediatric emergency response.
- Standardization of emergency kits for safe ventilated patient transport
- Postnatal care checklist implementation for standardized maternal and neonatal evaluations.
- Development of an IV access protocol with a dedicated team for improved efficiency.
- Expanded telemedicine services for biopsy follow-ups at referral centers.
- Surgical site infection audits to reduce complications.
- Revised high-dependency admission criteria for optimized resource utilization.
- Mandatory VTE assessment in Al Shifa to prevent thrombotic events.
- Training of 247 professionals in RCA and clinical auditing.
- Launch of the M&M Champions program, with monthly reviewer rotations for broad engagement.

These are just some examples of the many improvements implemented, reflecting a scalable, data-driven approach to continuous quality enhancement.

Conclusion

The implementation of a structured morbidity and mortality (M&M) audit process at Royal Hospital has significantly enhanced patient safety, clinical quality, and system-wide risk management. By integrating Root Cause Analysis (RCA), clinical audits, and real-time data monitoring, the hospital has developed a sustainable framework for identifying system gaps, implementing targeted interventions, and fostering a culture of

continuous improvement. Through the automation of morbidity indicators, multidisciplinary collaboration, and structured safety strategies, the initiative has led to 31 system improvements and 25 new policies, directly impacting clinical workflows, patient outcomes, and resource optimization. The expansion of telemedicine services, standardization of emergency protocols, and strengthened sepsis management exemplifies how evidence-based practices can reduce preventable harm and improve efficiency. Additionally, the training of 247 healthcare professionals and the introduction of the M&M Champions program have strengthened staff engagement and capacity-building. The annual recognition awards further reinforce accountability and motivation among healthcare providers. This initiative offers a scalable model that aligns with Oman Vision 2040, supporting healthcare excellence through policy advancements, digital transformation, and research-driven improvements. By continuously refining the auditing process, this model can be replicated across other healthcare institutions to enhance patient safety on a broader scale.

Conflicts of interest related to this abstract: None

P-2055

ENHANCING PATIENT SAFETY: STRATEGIES TO REDUCE MEDICATION ADMINISTRATION ERRORS ARISING FROM MISSED AND OMITTED DOSES

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Introduction

Medication errors, particularly missed and omitted doses, are a significant safety concern in healthcare. At Maternity and Children's Hospital (MCH), the medication error rate was 29% in December 2023, highlighting the need for an immediate intervention. Benchmark rate is 20% and below. This project aimed to reduce the medication error rate to 5% by December 2024. The project employed a multifaceted approach, focusing on staff education, enhanced communication, standardized protocols, and the integration of advanced technology to ensure accurate and timely medication administration. These targeted interventions were designed to improve patient safety, reduce medication errors, and foster a more efficient healthcare environment at MCH, benefiting both mothers and children.

Aim/Objective(s)

Aim:

The project aimed to reduce medication administration errors related to missed or omitted doses, reducing the error rate from 29% in December 2023 to 5% by December 2024.

Objectives:

- Improved medication safety: Ensured the safe, accurate, and timely delivery of medications to patients, reducing errors and improving patient safety.
- Enhanced staff training: Provided specialized training and education sessions for healthcare professionals, including 315 nurses and 32 pharmacy staff, to reduce medication errors and promote best practices.
- Implemented advanced technology: Introduced a medication management system to monitor and track drug administration, minimizing the likelihood of errors.
- Improved communication: Standardized handover procedures and foster better teamwork to ensure the accurate delivery of medications.
- Monitored and evaluated progress: Regularly assessed the effectiveness of implemented strategies through audits and

feedback, making necessary adjustments to ensure continued progress.

Methods

The Plan-Do-Check-Act (PDCA) methodology was employed to guide the project's implementation.

Plan: Strategies were developed to enhance awareness and educate staff through training for nurses and pharmacy staff. A non-punitive error reporting system was established, and standardized medication administration protocols were implemented. Communication improvement such as standardized handovers and workload management.

Do: Approximately 315 nurses and 32 pharmacy staff participated in training and education sessions annually from 2023 to 2024. All 145 newly hired nurses and 3 pharmacy staff receive orientation focused on medication safety. Nurses competency in medication administration with 100% attendance. Consultant pharmacist conducted IV workshop for nurses with post-examination certificate awarded upon completion. The upgraded medication administration system, along with reminder schedules, was introduced. Nurses who were active in reporting medication errors were awarded during a celebration arranged by the Hospital.

Check and Act: Regular audits were conducted to assess progress and identify areas for improvement.

Results

The project aimed to reduce medication errors in the workflow of administration from 29% in December 2023 to 5% by December 2024. The following results were achieved:

- 4th Quarter 2023 (Baseline): 29%
- 2024 (Project Year): 1st Quarter: 20.6%; 2nd Quarter: 10.6%; 3rd Quarter: 15.4%; – 4th Quarter: 8%
- 2025 (Post-Project): January: 5%; February: 4%

The data demonstrated a significant reduction in medication errors, successfully meeting the project goal of reducing errors to 5% by December 2024. Furthermore, improvements continued into 2025, with error rates reaching 4% by February, indicating the sustainability of the interventions.

Conclusion

This project successfully reduced medication administration errors at MCH, particularly in the area of missed/omitted doses. The error rate decreased from 29% in December 2023 to 5% by December 2024, with a continued decline into 2025, reaching 4% by February. This success was largely driven by the systematic implementation of the PDCA methodology and the integration of key interventions, such as staff education, process optimization, and advanced technology. A critical factor in the project's success was the implementation of the OASIS Plus system, a real-time medication tracking platform. The system allowed for accurate monitoring of drug administration, flagged discrepancies, and facilitated immediate corrective actions, significantly reducing human error. Additionally, the OASIS Plus system helped improve communication between healthcare providers, ensuring that medication delivery was carefully documented and managed. The results underline the importance of incorporating advanced technology into clinical practice to improve patient safety. Not only did the project reduce medication errors, but it also enhanced the overall quality of care provided to mothers and children. The continued success of this initiative highlights the effectiveness of combining education, technology, and ongoing evaluation in improving healthcare outcomes.

Conflicts of interest related to this abstract: None

P-2056

"Enhancing Pediatric Seizure Care: The Impact of a First Seizure Clinic in a Tertiary Hospital"

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Introduction

Seizures are common in children, with up to 5% experiencing at least one by adolescence. Timely evaluation following a first seizure is critical for accurate diagnosis, risk assessment, and early intervention. Delays in neurological consultation can lead to unnecessary emergency visits, increased healthcare costs, and missed treatment opportunities. Recognizing this gap, Al Jalila Children's Specialty Hospital established a First Seizure Clinic (FSC) to provide early outpatient assessments within 14 days of an initial seizure presentation. The FSC aims to differentiate between epileptic and non-epileptic events, initiate appropriate management, and educate families on seizure safety and recurrence risks. This study evaluates the impact of the FSC on patient outcomes, including time to neurology assessment, diagnostic accuracy, EEG access, emergency department (ED) revisits, and overall healthcare utilization.

Aim/Objective(s)

The primary objective of this study is to assess the effectiveness of the First Seizure Clinic (FSC) in optimizing early neurological evaluation and management in pediatric patients presenting with a first seizure-like event. Specifically, we aim to:

1. Analyze referral patterns, reasons for referral, and demographic characteristics of FSC patients.
2. Evaluate the time from initial presentation to neurology consultation and EEG completion.
3. Assess the final diagnoses, differentiating epilepsy from non-epileptic events.
4. Determine the impact of early outpatient assessment on emergency department (ED) revisits.
5. By evaluating these metrics, we aim to demonstrate the role of FSCs in improving healthcare efficiency, reducing unnecessary hospital visits, and enhancing patient care through timely diagnosis and management.

Methods

This retrospective study reviewed all pediatric patients referred to the neurology department at Al Jalila Children's Specialty Hospital for a first seizure-like event between November 2023 and October 2024. Patients were referred from the emergency department or outpatient clinics. A total of 145 patients were scheduled for FSC evaluation. Data collected included patient demographics, referral sources, presenting symptoms (suspected seizures, abnormal movements, syncope, paroxysmal events), and time to neurology assessment. Attendance rates and barriers to access, particularly insurance coverage, were examined. For patients requiring EEG, the time from the clinic visit to EEG completion was recorded. Final diagnoses were categorized into epilepsy, single unprovoked seizure, syncope, and non-epileptic events. Emergency department revisits within the study period were tracked to assess the effectiveness of early outpatient evaluation in reducing hospital visits.

Results

Patients were scheduled for FSC visits within an average of 14 days from their initial emergency department presentation. The overall attendance rate was 60%, with insurance coverage in the outpatient setting being the main barrier to attendance. Among patients requiring an EEG, 59% completed the study on the same day, 36% within a week, and 5% within a month of

the clinic visit. The primary reasons for referral included suspected seizures (50%), abnormal movements (20%), syncope (7.8%), and staring episodes (5.7%). An additional 16% were referred for other paroxysmal events such as breath-holding spells and febrile seizures. Out of the 145 scheduled patients, only two returned to the emergency department due to seizures, one of whom had declined treatment. Regarding final diagnoses, 36% of attended patients were diagnosed with epilepsy and initiated on treatment, 43% had a single unprovoked seizure with a normal EEG, 9.5% had syncope, and 43% had non-epileptic events.

Conclusion

The implementation of a First Seizure Clinic (FSC) at Al Jalila Children's Specialty Hospital has demonstrated its effectiveness in streamlining early neurological assessment, reducing emergency department revisits, and enhancing diagnostic accuracy. By facilitating timely access to specialized care, FSCs help differentiate benign events from epilepsy, initiate appropriate treatment plans, and provide essential education on seizure safety. The high proportion of non-epileptic events highlights the importance of early neurology evaluation to prevent unnecessary treatment and alleviate parental anxiety. Additionally, expedited EEG access allows for rapid decision-making, minimizing delays in diagnosis and management. However, insurance-related barriers to outpatient attendance remain a significant challenge, indicating the need for policy adjustments to improve access to specialized pediatric neurology care. These findings support the expansion of FSCs as a model for improving healthcare efficiency and patient outcomes, with potential applicability in other healthcare systems worldwide.

Conflicts of interest related to this abstract: None

P-2057

Enhancing Radiotherapy Efficiency and Reducing Patient Waiting Days with Smart Scheduling: A Practical Medical Experience from Taiwan

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Introduction

Healthcare institutions worldwide face significant barriers to expanding radiotherapy capacity due to limited financial and physical resources, resulting in prolonged patient waiting times and limited treatment accessibility. This study implemented smart scheduling, innovative treatment strategies, and workflow optimization to significantly enhance radiotherapy efficiency and patient care quality without additional resources. Propose solutions to the common challenges faced by healthcare institutions worldwide.

Aim/Objective(s)

1. Optimize workflows to improve equipment utilization and operational efficiency.
2. Apply innovative treatment strategies to reduce patient waiting times.
3. Implement smart scheduling technology to effectively increase the number of patients treated.
4. Enhance medical staff productivity and satisfaction through balanced workload management.

Methods

- Retrospectively analyzed three years of data on equipment utilization and patient treatment volumes.
- Develop and introduce a smart scheduling system to optimize radiotherapy appointment configuration and equipment use.
- Adopted hypofractionation techniques to reduce required treatment sessions.
- Compared pre- and post-implementation performance indicators, including equipment utilization, patient waiting days, service volumes, and staff workload.

Results

1. Increased Radiotherapy Capacity: Smart scheduling and workflow optimization raised equipment utilization to 126.3% [(192-152)/152×100%], increasing daily patient treatments from 160 to 210.
2. Shortened Patient Waiting Days: Appointment waiting days significantly decreased from an average of 11 days to less than 7 days (Before improvement: Machine 1 = 10.9±2.1, Machine 2 = 6.2±2.6, Machine 3 = 6.2±1.4; After improvement: Machine 1 = 3.4±0.8, Machine 2 = 4.1±0.8, Machine 3 = 4.1±1.0).
3. Effectiveness of Hypofractionation: Adoption of hypofractionation techniques reduced treatment sessions for specific cancer types by 42.9%-83.3%, releasing more available treatment slots.
4. Optimized Staff Scheduling: Reduced nighttime and weekend overtime demands, significantly improving staff productivity, satisfaction, and overall workforce efficiency.

Conclusion

This practical study demonstrates the effectiveness of smart scheduling, advanced treatment methods, and workflow optimization in enhancing radiotherapy service efficiency and patient accessibility without additional resource investment. Healthcare institutions worldwide, particularly those with limited resources, can adopt this approach to sustainably manage rising healthcare demands and improve patient care quality.

Conflicts of interest related to this abstract: None

P-2058

Enhancing Stroke Care Through an Electronic Health Record (EHR)-Driven Stroke Golden Hour Pathway

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Introduction

Stroke remains a leading cause of morbidity and mortality worldwide, with ischemic strokes comprising approximately 87% of all stroke cases. Rapid intervention within the "golden hour" – first 60 minutes after arrival) significantly improves patient outcomes by minimizing brain damage and maximizing recovery potential. However, achieving timely diagnosis and treatment remains a challenge due to delays in patient triage, imaging acquisition, and initiation of thrombolytic therapy.

At Emirates Health Services (EHS), emergency departments (EDs) manage over 3000 suspected stroke cases per year, necessitating a streamlined approach for efficient stroke care. To address these challenges, we implemented an EHR-integrated Stroke Golden Hour Pathway within Oracle EHR (Wared). This pathway automates patient triage, enables rapid imaging, ensures adherence to thrombolysis eligibility criteria, and standardizes care practices, reducing Door-to-Needle time to 60

minutes or less. Our study evaluates the impact of this informatics-driven solution on stroke outcomes within EHS facilities.

Aim/Objective(s)

The primary objective of this initiative was to implement an EHR-driven Stroke Golden Hour Pathway that optimizes early stroke recognition, rapid triage, expedited imaging, and timely intervention within EHS hospitals. Specific aims included: Reducing Door-to-Needle time to ≤ 60 minutes for eligible ischemic stroke patients. Automating the stroke care process by integrating a standardized workflow within Oracle EHR (Wareed). Ensuring consistent adherence to best practices, including BEFAST assessment, NIH Stroke Scale documentation, thrombolysis eligibility checklists, and imaging protocols. Minimizing practice variation across EHS EDs, providing uniform, evidence-based stroke management. Evaluating patient outcomes, including thrombolysis administration rates, time to intervention, and overall stroke survival rates. By leveraging clinical decision support tools and structured workflows, we aim to standardize stroke

Methods

The Stroke Solution was designed and implemented within Oracle EHR (Wareed) at EHS to streamline ischemic stroke management in the ED. The objective was to automate key workflow steps, standardize clinical decision-making, and minimize Door-to-Needle time for thrombolysis. The system prioritizes suspected stroke cases by enabling patients to bypass standard triage, undergo BEFAST assessment, and receive immediate stroke code activation for expedited care. Automated clinical decision support tools initiate pre-defined order sets, imaging requests, and a 21-point thrombolysis eligibility checklist. Once thrombolysis is administered, pre-defined inpatient and discharge power plans guide further management. Data was extracted from the Wareed database for all stroke episodes for 12 months period from 1st Jan 2024 to 31st Dec 2024, comparing care pathway vs. non-care pathway cases. Key metrics analyzed included door-to-CT time, door-to-diagnosis, door-to-thrombolysis, 30-day readmissions, NIH Stroke Scale improvement at discharge, and all-cause mortality.

Results

A total of 3078 case of confirmed diagnosis of acute ischemic stroke in EHS hospitals. 400 were excluded because of inpatient diagnosis, 2688 cases with ED and inpatient diagnosis were included. 1522 of them under care pathway and 1166 cases without care pathway. The implementation of the EHR-driven Stroke Golden Hour Pathway significantly improved stroke care efficiency at EHS facilities. Non-parametric tests demonstrated substantial reductions in key turnaround median times among care-pathway patients compared to non-care-pathway patients:

- Door-to-CT time reduced by 19.9 minutes
- Triage-to-CT time reduced by 18.8 minutes
- Door-to-ECG time reduced by 9 minutes
- Door-to-diagnosis time reduced by 110 minutes

Patients enrolled in the care pathway exhibited higher compliance rates in ECG (9 % increase) and CT completion (24% increase), and alteplase administration (11% increase).

Clinical Outcomes

- Lower all-cause mortality among care-pathway patients (2.96% vs 6.95%),
- Reduced 30-day readmission rates (13.05% vs 17.18%)

Conclusion

The implementation of the EHR-driven Stroke Golden Hour Pathway at EHS has demonstrated significant improvements in stroke care efficiency, reducing door-to-diagnosis time, optimizing treatment initiation, and improving patient outcomes. This initiative offers a scalable and replicable model for stroke

management, with policy and practice implications for integrating clinical decision support and workflow automation in emergency care settings. Future research may focus on expanding AI-driven predictive analytics, further refining stroke triage algorithms, and optimizing pre-hospital stroke identification to improve early intervention and outcomes.

Conflicts of interest related to this abstract: None

P-2059

Enhancing the Cardio-Pulmonary Resuscitation (CPR) Capability of Non-Health Personnel

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Introduction

Emergencies, disasters, and sudden cardiac arrests can strike without warning, leaving individuals vulnerable to life-threatening situations. In the Philippines, heart disease remains the leading cause of death, with survival rates significantly dependent on immediate CPR intervention. Recognizing this, the Department of Health has mandated CPR training for every household, reinforcing the crucial role of bystanders in emergency response. Despite existing emergency medical systems, delayed or absent CPR remains a public health concern. Hospitals, particularly district hospitals, serve as primary healthcare providers in their regions, acting as the first line of defense during mass casualty incidents. While health personnel are trained for such emergencies, the inclusion of non-health personnel in CPR training is vital. In times of crisis, when medical staff are overwhelmed, trained non-health personnel can step in, ensuring that life-saving care is promptly administered. Strengthening CPR knowledge across all sectors enhances community resilience and significantly improves survival outcomes.

Aim/Objective(s)

This study aimed to assess and enhance the CPR knowledge and skills of non-health personnel, recognizing their critical role in emergency response. Specifically, it sought to:

1. Evaluate the baseline knowledge and competency levels of non-health personnel in performing CPR to determine their preparedness in emergency situations.
2. Identify gaps and limitations in their understanding and execution of CPR procedures, addressing potential barriers to effective intervention.
3. Develop and implement a structured capability enhancement program tailored to their specific needs, ensuring accessibility and effectiveness in skill development.
4. Assess the effectiveness of the program in improving CPR readiness and response, measuring its impact on confidence and competency levels.

By achieving these objectives, the study contributed to strengthening emergency preparedness, empowering non-health personnel as first responders, and ultimately improving survival outcomes in critical situations.

Methods

This descriptive study employed the research and development (R&D) model to develop and validate a CPR capability enhancement program for non-health personnel in district hospitals of Ilocos Norte. The study followed three phases: research, development, and validation. Participants included 39 non-health personnel from hospital operations, patient support, and financial divisions, selected through total enumeration. Data collection involved structured questionnaires, a checklist, and an observational return demonstration using the Department of Health's CPR evaluation tool. Experts, including CPR trainers and hospital administrators, validated the program. Data analysis used frequency counts, percentages, and weighted mean to

assess knowledge, competency, and program effectiveness. Ethical considerations included informed consent, confidentiality, and voluntary participation. Findings guided the revision and refinement of the enhancement program to improve CPR readiness among non-health personnel.

Results

The study revealed that the respondents' knowledge and competency levels were significantly low, as reflected in their slightly competent performance. This suggests a lack of readiness for emergency and disaster situations, limiting their ability to provide life-saving interventions. Non-health personnel's role in such scenarios would largely be restricted to physical tasks rather than critical medical support. Despite these challenges, there is hope. A capability enhancement program was developed to strengthen the preparedness of non-health personnel and community members. Aligned with the Department of Health's vision under Administrative Order 155, s. 2004, this program aims to equip individuals with essential skills to contribute meaningfully in emergencies. Evaluated by experts, the program was deemed highly valid, proving its potential to empower communities and bridge the competency gap. These findings underscore the importance of investing in training and preparedness. With proper education and support, non-health personnel can become valuable assets in emergency response, fostering a culture of resilience and saving more lives. This study serves as a call to action – through continuous learning and development, every individual can play a role in creating a safer and more prepared society.

Conclusion

This study underscores the power of knowledge and preparedness, emphasizing the vital role of non-health personnel in saving lives through essential CPR skills. By bridging gaps in emergency response, the capability enhancement program has proven to be a beacon of hope – empowering individuals with the confidence and competence to act swiftly in critical moments. The success of this initiative highlights the importance of continuous learning and collaboration in building a safer, more resilient community. To ensure that these life-saving skills remain ingrained, district hospitals are encouraged to institutionalize regular CPR training sessions and integrate emergency response drills. These proactive measures will not only sustain skill retention but also reinforce a culture of readiness and compassion. Looking ahead, expanding this program to other community sectors offers a promising opportunity to strengthen public health resilience. By equipping more individuals with the ability to respond effectively in emergencies, we are fostering a future where more lives can be saved, and every citizen becomes a pillar of support in times of crisis. This journey of empowerment is a testament to the power of unity, knowledge, and the unwavering commitment to protecting one another.

Conflicts of interest related to this abstract: None

P-2060

Enhancing the caregiving knowledge and skills of primary caregivers for patients transferred out of the surgical intensive care unit.

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Introduction

Chang Gung Medical Foundation is a leading healthcare system in Taiwan, operating nine hospitals, two nursing homes, two postpartum care centers, and four home care facilities. Its services include emergency care, outpatient services, critical care, and acute and chronic medical treatments across various fields

such as adult internal and surgical care, pediatrics, obstetrics, traditional Chinese medicine, ophthalmology, dentistry, psychiatry, rehabilitation, and organ transplantation. As a pioneer in medical research and education, Chang Gung integrates advanced technology to provide patient-centered care. Its dedication to excellence has earned the trust of both local and international patients seeking high-quality healthcare solutions.

Aim/Objective(s)

When patients are transferred out of the intensive care unit (ICU), a thorough handover between the medical team and the receiving ward is crucial to ensure continuity of care. Supporting family members during this transitional period and encouraging their active participation in patient care are key to improving care quality. Research shows that 12% of ICU readmissions are preventable, highlighting the importance of a well-designed transitional care plan to reduce this risk.

Methods

The project, conducted from March 2023 to April 2024, addressed the low caregiving knowledge accuracy rate of 42.5% among primary caregivers of patients transferred out of the intensive care unit (ICU). A cross-team collaboration approach was implemented to develop standardized nursing guidance protocols for ICU transfers. Multimedia educational videos and caregiver preparation posters were created to provide caregivers with essential knowledge and skills before the patient's transfer, enhancing their readiness. To ensure continuity of care, a caregiver learning passport was introduced, enabling caregivers to track their progress. Post-transfer, ward nursing staff conducted continuous assessments and provided guidance to caregivers. Additionally, a standardized process for nursing guidance during the transition from ICU to general wards was established, ensuring seamless care transitions and significantly improving caregiver competence.

Results

Following the implementation of the above measures, the caregiving knowledge accuracy rate among primary caregivers of patients transferred out of the ICU increased from 42.5% to 97.1%, successfully achieving the project's goal. Additionally, continuous tracking in 2025 demonstrated that the caregiving knowledge accuracy rate consistently remained above 90%, indicating sustained effectiveness.

Conclusion

Through the implementation of this project, caregivers were equipped with relevant caregiving knowledge and skills during the transition period between the ICU and general wards. Additionally, continuous evaluations of caregivers were conducted across units. By fostering team collaboration, the project enhanced caregivers' abilities and supported the continuity of care. During the project implementation period, the rate of unplanned ICU readmissions within 48 hours for transferred patients decreased from 1.37% to 0%. Furthermore, there were zero incidents of caregiver-related care abnormalities reported in the general ward, representing an added benefit of the project.

Conflicts of interest related to this abstract: No

P-2061

Enhancing the Completion Rate of Social Care for Elderly Patients

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Introduction

As Taiwan approaches a super-aged society, with the elderly population expected to reach 20% by 2025, healthcare systems face growing challenges in managing aging-related functional decline. In our specialized geriatric ward, where elderly patients (≥ 75 years) are hospitalized for acute conditions, maintaining functional independence is as crucial as treating medical conditions. However, only 47.1% of our patients receive adequate social care, leading to social withdrawal and loss of autonomy. Nurses also face challenges due to limited training and resources. To address this gap, we implemented structured interventions, including immersive social activities, tailored daily life schedules, and enhanced nurse education programs. These efforts increased social care completion rates to 86.7%, demonstrating the importance of integrating social care into inpatient geriatric treatment. Our approach not only improves quality of life but also supports sustainable healthcare by promoting functional recovery and reducing long-term care dependency.

Aim/Objective(s)

The primary objective of this project is to enhance the completion rate of social care among elderly inpatients, improving their autonomy, social engagement, and overall well-being. Specifically, we aim to:

1. Increase social care completion rates from 47.1% to at least 84.8% through structured interventions.
2. Enhance nurses' knowledge and execution of social care by implementing targeted in-service education, improving training completion rates from 58.5% to over 90%.
3. Develop patient-centered interventions, including immersive social activities and a structured daily life schedule, to foster engagement and reduce social withdrawal.
4. Establish standardized health education resources, such as tailored educational materials, to improve awareness and accessibility for patients and caregivers.
5. Ensure sustainability by integrating successful strategies into routine hospital care and expanding implementation to other geriatric wards.

By achieving these goals, we aim to promote functional independence and healthy aging within the hospital setting.

Methods

A prospective quality improvement project was conducted in a specialized geriatric ward (≥ 75 years) with a 95% occupancy rate. Fifty-four elderly inpatients and 21 nurses participated. A mixed-methods approach was used, combining surveys, structured observations, and educational interventions.

Data Collection & Tools:

1. Social Care Needs Survey (5-item questionnaire, CVI = 0.94) assessed patient needs.
2. Social Care Observation Checklist (7-item tool) measured care completion rates pre- and post-intervention.
3. Nurses' Knowledge Test (10 true/false questions, CVI = 0.92) evaluated training effectiveness.

Interventions:

- Immersive social activities (e.g., simulated markets, floral therapy).
- Daily life schedule guidance tailored to patient needs.

- In-service education for nurses on social care implementation.
- Standardized health education materials for patients and caregivers.

Data Analysis: Pre- and post-intervention comparisons were conducted using descriptive statistics, with completion rates analyzed for effectiveness.

Results

Following the implementation of structured interventions, the social care completion rate among elderly inpatients increased from 47.1% to 86.7%, exceeding the target of 84.8%. The highest improvements were observed in social engagement participation (from 3.7% to 85.2%), daily activity initiation (from 14.8% to 88.9%), and personal hygiene maintenance (from 14.8% to 81.5%). Among nurses, the execution rate of social care education improved from 58.5% to 96.6% after targeted in-service training. The nurses' knowledge test scores increased from 48.8% to 90.9%, reflecting enhanced understanding of social care concepts and application. Patient and caregiver feedback highlighted increased willingness to engage in structured activities, with 100% satisfaction reported in immersive social activities (e.g., floral therapy and simulated markets). Additionally, four caregivers reported that patients continued following the structured daily schedule post-discharge, maintaining their engagement and autonomy. The project's sustainability was demonstrated through follow-up data from October 2023 to April 2024, where the average social care completion rate remained at 86.1%. These findings indicate that integrating structured social care interventions into hospital settings significantly enhances elderly patients' well-being and functional independence, contributing to long-term healthcare improvements.

Conclusion

This project successfully enhanced the completion rate of social care for elderly inpatients from 47.1% to 86.7%, demonstrating that structured interventions can effectively promote functional independence and social engagement. By addressing barriers such as patient disinterest, limited nurse training, and lack of structured resources, we improved nurse-led social care education (from 58.5% to 96.6%) and nurses' knowledge levels (from 48.8% to 90.9%). This initiative contributes to health service improvement by integrating social care into routine inpatient geriatric care, ensuring a holistic approach beyond traditional disease management. The innovative use of immersive social activities, structured daily life schedules, and tailored educational materials can be replicated and scaled across different healthcare settings. From a policy perspective, this project highlights the need for standardized social care protocols in geriatric inpatient settings. Future research should explore long-term impacts post-discharge and the feasibility of nationwide implementation. By fostering healthy aging, reducing social isolation, and enhancing patient autonomy, this model supports sustainable elderly care strategies, aligning with global aging population challenges. Expanding these practices hospital-wide can ensure better quality of life and reduced long-term care dependency, shaping future geriatric care policies and interventions.

Conflicts of interest related to this abstract: None

P-2062**Enhancing Vascular Access Management: Establishment of a Dedicated Program in a University Hospital**

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Introduction

In HUG, 70% of hospitalized patients require vascular access. The number of patients with difficult vascular access rises, largely due to an aging population and the increasing prevalence of multiple co-morbidities. These complex cases are associated with higher clinical risks, delays in care delivery, increased patient dissatisfaction, and additional healthcare costs. In response to this challenge, many hospitals worldwide have implemented dedicated mobile teams specialized in difficult vascular access. At HUG, the Vascular Access Program, proposes an innovative organizational model. It combines a centralized mobile team of vascular access experts with specialized professionals embedded within their respective clinical departments. The program currently includes 46 healthcare professionals representing all major care services. Their coordinated efforts focus on developing practice guidelines, providing consultations, delivering targeted training, and implementing new clinical practices.

Aim/Objective(s)

Main Objective: Enhance responsiveness to ensure the quality and safety of care by developing the necessary competencies at the bedside.

Specific Objectives:

- Provide immediate access, upon admission, to the required medical and nursing expertise to equip patients with the appropriate devices, in alignment with their clinical, therapeutic, and care pathway needs, as well as their preferences.
- Preserve the patient's venous capital by reducing the number of punctures and catheter replacements.
- Manage risks associated with complications, costs, and the level of satisfaction among both patients and healthcare teams.
- Facilitate continuity of care by offering the Geneva population and healthcare network partners access to specialized medical and nursing expertise, as well as technical resources, across the HUG network.
- Offer up-to-date clinical procedures to clinicians and to the healthcare network, including nearby French hospitals.

Methods

By 2023, a strategic analysis was conducted in collaboration with stakeholders, utilizing the SWOT, PESTEL, and Ishikawa models. Needs assessments and value analyses were defined and prioritized through the application of the CriNiFlex model and the "Four Views" framework, which addresses four key dimensions: Organization, Users, Processes, and Technology. Based on this analysis, stakeholders identified three initial priorities: improving the prescription process for selecting appropriate vascular access devices, training clinical department experts, and developing a monitoring system to assess problem significance and track progress over time. A Business Model Canvas was established to guide the initiative, and, at present, eleven departmental project teams are being coordinated asynchronously within an Agile transformation framework. All adult patients with a venous access device are surveyed. Healthcare professionals have been provided with online access to practice frameworks and standardized processes to support implementation. Performance indicators are monitored through the integrated HUG electronic health record.

Results

By 2023, performance indicators show that more than 87,818 catheters were inserted, with 5% of all adult patients identified as having difficult peripheral vascular access. The mobile vascular access team performed approximately 1,700 interventions over the year, including line insertions, device maintenance, troubleshooting and device removal. In response to higher demand, anesthetists are carrying 900 additional consultations. The program also delivered 30 staff training sessions, tailored to service needs. A total of 210 nurses were trained in ultrasound-guided peripheral intravenous cannulation. As a result, the use of ultrasound for the management of difficult vascular access increased from 7% (620 of 8,531 catheters) in 2023 to 13% (1,185 of 8,949 catheters) in 2024 for patients hospitalized in general medicine units. The team developed and disseminated 12 standard operating procedures, including a decision-making algorithm for selecting the most appropriate vascular access device based on patient-specific characteristics. Additionally, 99 procedural guidelines were produced, detailing best practices for device insertion techniques and care protocols for various types of vascular access devices.

Conclusion

The organizational structure of the Vascular Access Program fosters a participatory dynamic and promotes collaboration between various clinical departments on this subject. Moreover, the strategy of developing a care program with a small, centralized team in conjunction with department-based teams has enabled the cultivation of expertise near clinical activity. This model ensures the delivery of specialized vascular access services, available seven days a week across all eleven sites. Notably, the development of this program generated interest from partners within the broader healthcare network. Stakeholders from home care services and community hospitals in neighboring regions of France have joined the program. As part of the ongoing inter-institutional collaboration, the implementation of an outpatient vascular access consultation is planned for 2025–2026. This service is intended to facilitate access to specialized expertise and advanced technical resources for patients managed within affiliated institutions across the care network. Through this initiative, HUG fully fulfills its mission as a public and university hospital, enhancing the continuum of care and contributing to the dissemination of best practices in vascular access management.

Conflicts of interest related to this abstract: Aucun

P-2063**Enhancing Workplace Safety in Healthcare: A Zero-Tolerance Approach to Aggressive Behavior**

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Introduction

Workplace violence (WPV) is a growing concern in healthcare, affecting staff well-being, patient care quality, and institutional efficiency. Nurses and frontline staff are particularly vulnerable to verbal and physical aggression from patients or their families. Studies show that healthcare workers experience workplace violence at significantly higher rates than other professions, impacting their performance and job satisfaction. At Medpark International Hospital, a high-volume acute care facility, ensuring a safe work environment is crucial for sustaining quality care. The absence of structured workplace safety training in Moldova exacerbates the challenge, leaving staff unprepared to handle violent incidents effectively. Recognizing this, Medpark has implemented targeted interventions to enhance

workplace safety for both employees and patients. This abstract presents strategies adopted to prevent workplace violence, with a focus on education, prevention, structured response protocols, and cultural change to foster a safe and supportive healthcare environment.

Aim/Objective(s)

This project aims to enhance workplace safety by implementing structured interventions to prevent and manage aggressive behavior in healthcare settings. The key objectives include:

- Identifying risk factors contributing to workplace violence and assessing its prevalence in healthcare environments.
- Providing targeted training programs for nurses, frontline staff, and security personnel to improve de-escalation skills and response to violent incidents.
- Establishing robust reporting and support systems to ensure timely intervention and psychological assistance for affected staff.
- Educating patients and families on respectful communication and behavioral expectations within the hospital.
- Strengthening workplace safety culture by improving staff confidence in handling violent situations and ensuring adherence to institutional policies and procedures.
- Measuring improvements in violence prevention climate using the Violence Prevention Climate Scale (VPCS) to assess practices, policies, and overall workplace safety climate.

Methods

A mixed-method approach was used to assess workplace violence at Medpark International Hospital. The study included healthcare professionals, receptionists, security personnel, and patients, evaluating their experiences through surveys, incident reports, and structured interviews.

Interventions were structured into three components:

Actions Targeting Staff:

- Training programs for nurses, receptionists, and security personnel using the MAPS (Managing Aggressive Patient Situations) model.
- Managerial training on conflict de-escalation and resolution.
- Clear protocols for reporting violence and immediate intervention mechanisms.
- Psychological support services for affected staff.

Actions Targeting Patients:

- Clear signage and informational materials emphasizing respectful behavior expectations and reporting mechanisms for incidents of aggression.
- Mandatory acknowledgment of behavioral guidelines at admission.
- Strengthened security presence in high-risk areas.

Evaluation of Effectiveness: The Violence Prevention Climate Scale (VPCS) assessed improvements in practices and response, policies and procedures, and pressure for unsafe practices, providing an objective measure of intervention outcomes.

Results

Impact on Violence Prevention Climate (VPCS Assessment): The Violence Prevention Climate Scale (VPCS) assessment demonstrated a significant shift in workplace safety culture. Following the intervention, staff confidence in managing aggressive incidents improved by 35%, while newly established policies and procedures were effectively implemented. Additionally, pressure for unsafe practices decreased by 30%, reinforcing a commitment to prioritizing staff safety.

Impact on Staff Safety: The implementation of the Zero Tolerance to Aggressive Behavior policy resulted in a 40% reduction in reported incidents of aggression. The perception of workplace safety among nurses increased from 60% before the in-

tervention to 85% after. Workplace stress and burnout declined, with a 25% reduction in emotional exhaustion among staff.

Impact on Patients: Improved staff safety translated into better patient care. Complaints related to staff interactions declined by 35%, while patient satisfaction scores increased by 15%, with a 40% reduction in resolution time for complaints. A safer work environment also led to improved adherence to clinical protocols and fewer medication errors. Medication errors dropped by 25%, and adherence to clinical protocols improved by 15%, ensuring improved patient care.

Conclusion

Implementing the “Zero Tolerance to Aggressive Behavior” policy at Medpark International Hospital has significantly reduced workplace violence and strengthened workplace safety culture. The structured approach – combining staff training, patient education, clear behavioral guidelines, and reinforced security measures – has enhanced staff confidence, reduced burnout, and improved focus, emotional well-being, and compliance with safety protocols. By ensuring a safer work environment, the intervention has led to better adherence to clinical protocols, fewer medication errors, and higher patient satisfaction. These findings highlight that prioritizing staff safety directly benefits healthcare service quality by improving decision-making, reducing errors, and fostering a culture of respect and collaboration.

This initiative serves as a model for other healthcare institutions, demonstrating the impact of:

- Zero-tolerance policies
- Continuous staff and patient education
- Clear reporting and intervention protocols
- A culture of mutual respect and accountability

Sustained commitment to these strategies can help hospitals create safer and more efficient healthcare environments, ultimately benefiting both employees and patients while improving overall healthcare service delivery.

Conflicts of interest related to this abstract: None

P-2064

Ensure Safer Systems: Impact of Nationwide Quality Improvement and Patient Safety Model on Safety Culture and Outcomes in Singapore

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Introduction

Singapore's healthcare system is widely regarded for achieving health outcomes comparable with leading global benchmarks. These outcomes are a product of an evolving healthcare approach that is shaped by past experiences and guided by international best practices and global experts. This unique Singapore approach is responsive, relevant and contextualized to Singapore's unique needs. One such example is the MOH's collaboration with the JCI to develop Ensure Safer Systems (ESS). Launched in 2021, ESS is a joint initiative that seeks to enable public healthcare institutions to deliver quality and safe care by adopting high reliability governance and leadership principles. It empowers staff towards creating sustainable quality improvement and patient safety systems, leading to continuously improving safety culture.

Aim/Objective(s)

As a national program, ESS aims to:

1. Create systems for sustainable quality improvement and patient safety based on international standards.

2. Transform culture towards continuous learning, safe reporting and increased positive collaboration.
3. Scale impact from pockets of excellence to the system level.
4. Provide inclusive and efficient solutions to common safety problems through expertise and resource pooling.

Methods

Nineteen institutions (acute, ambulatory, primary care) participate in this program.

ESS uses a multi-pronged approach:

- Raise leadership awareness and commitment on high reliability through education and structured assessment;
- Develop and enhance institutional quality improvement and patient safety systems supported by MOH and JCI;
- Build safety culture for staff through capability building and promoting just culture;
- Identify and address national priorities through assessments using locally contextualized international standards;
- Communities of practice addressing identified common issues in clinical areas and environment of care.

Indicators of success include:

1. Safety culture measured by nationwide AHRQ Patient Safety Culture Survey.
2. High reliability maturity measured by JCI Oro 2.0 High Reliability Assessment.
3. Compliance with JCI standards measured by combined self-assessments and external assessments by JCI. Data is collected and analyzed on JCI AMP® software.
4. Reduction in serious reportable events concurrent with increase in reporting.
5. Development and adoption of national recommendations/guidelines.

Results

After 3 years of implementation, national data showed:

1. Improvements in 6 out of 8 AHRQ Patient Safety Culture Survey composite measures for acute hospitals, including a 22% increase in Response to Error, 21% in Communication Openness, 12% in Communications about Error.
2. Improvements in 13 out of 14 Oro 2.0 High Reliability composite measures in all settings, including an 18% increase in Trust.
3. Improved performance in 4 national priorities for safety processes, with 94-97% overall compliance with related JCI standards.
4. Reduced number of severe adverse events (in certain categories) reported to the Ministry.
5. Establishment of the ESS Community of Practice and 5 thematic ESS National Workgroups. Endorsement of 2 sets of national recommendations.

Data from an exemplar hospital, National University Hospital, showed:

1. Improvements in AHRQ Patient Safety Culture Survey: a 23% increase in Response to Error, 20% in Communication Openness.
2. Patient falls decreased to 0.59/1,000 inpatient days and 0.83/10,000 outpatient attendances in 2024 from 0.65/1,000 patient days and 1.15/10,000 outpatient attendances.
3. A 97.4% compliance with JCI standards related to 4 national priorities in 74 clinical areas assessed.
4. Improvement in incident reporting culture, including near misses.

Conclusion

Interim results of the ESS program have demonstrated quantified improvements in safety culture and outcomes at the national and institutional levels. This is achieved by embedding

self-directed quality and safety assessments and national collaborations supported by MOH and JCI. High reliability governance and leadership across the board ensure scalability and sustainability of impact.

Conflicts of interest related to this abstract: None

P-2065

Establish an continuing in-service education program for Nurse practitioners (NPs) to enhance clinical care and leadership capabilities

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Introduction

The aging society in Taiwan increases the demand in healthcare facilities. Nurse practitioners (NPs) are professional clinical nurses who work collaboratively with physicians to provide continuous and integrative care. Development of professional NP started 20 years ago in Taiwan. Since 2004, the "Specialty Division and Screening Methods for Nurse Practitioners" were formulated. Specify the training units, training methods and training period for Nurse Practitioners. Those who pass the national Nurse practitioners (NPs) selection examination can obtain the national Nurse practitioners (NPs) certification and then be able to practice in hospitals.

Aim/Objective(s)

In order to gradually enhance the clinical professional capabilities of Nurse practitioners (NPs), improve the quality of patient care, promote hospital recognition, and increase opportunities for feedback or promotion, in 2017, the Taiwan Association of Nurse Practitioners developed a Clinical Ladder System to support Continuing professional development for Nurse practitioners (NPs). Our hospital currently has 68 Nurse practitioners with an average of 10 years of experience, but only 15 have passed the advanced level. The reasons are analyzed: There is a lack of in-service education specifically for Nurse practitioners in hospital-wide or resident training courses.

Therefore, by establishing Nurse practitioners in-service education, we hope to help Nurse practitioners improve their clinical care and self-role capabilities, thereby enhanced the quality of patient care.

Methods

1. Assess course needs:
2. All NPs were fill in the "56 items" Nurse practitioners Role Competence Questionnaire" After data analysis, it was found that current training courses lacks six major clinical capabilities:
3. Develop a care plan based on the cultural background, values and health beliefs of patients and their families
4. Apply advanced assessment skills based on evidence-based findings to collect a complete medical history
5. Apply critical thinking to solve clinical nursing problems
6. Combine new nursing knowledge to provide safe nursing care
7. Provide guidance on in-service education courses for junior NPs
8. Read medical and nursing-related literature and apply it to clinical care
9. Design education courses and standardize class procedures
10. Establish Training Management System(TMS) based on four major categories: patient care, professional ability, teaching ability, and research ability.

11. A TMS can remind Trainee for upcoming sessions, statistics attendance and satisfaction rate.

Results

1. The course is set for 20 hours per year and start in August 2024. The course achievement rate is 18 hours accumulated as of January 2025, and the achievement rate is 90%
2. Average monthly course satisfaction rate: 97%
3. The proportion of improvements in the post-course questionnaire for lack of six major clinical abilities increased, showing that all aspects of the content of the in-service education program established by this
4. activity are meet the needs of nurse practitioners. (Presented as a chart)
5. Clinical Ladder System review will be held in April 2025. It is expected that the pass rate will improve this year.

Conclusion

Continuing in-service education is crucial for nurse practitioners to maintain their licensure, stay updated on best practices, and advance their clinical skills. Regarding the future of nurse practitioners, it is hoped that industry-university cooperation can make training quality more consistent, and the advancement of nurse practitioners can be based on each level. By assigning different tasks, relevant resources such as national and health insurance policies can be invested in clinical specialists, allowing nurse practitioners to become stronger and focus on improving the quality of medical care.

Conflicts of interest related to this abstract: None

P-2066

Establishment of lasers and optical radiation devices management plan to improve medical quality and patient safety

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Introduction

The purpose of the hospital is to provide service, education, and research while aiming to become a comprehensive medical center that offers holistic care, cultivates outstanding talent, and is highly trusted by the public.

Aim/Objective(s)

By framing the lasers and optical radiation devices management plan, this study aims to ensure the safe usage of lasers and other optical radiation devices used for treatment, to integrate internal Taiwan patient safety reporting system (TPR) and the employee occupational disaster notification and identification, and to implement the complete reporting process and monitoring mechanism to improve patient-staff safety.

Methods

- (1) Develop lasers and optical radiation devices management programs: Establish hospital standards in the following aspects: regular equipment inspection, maintenance, safety of operating environments and warning, and safety protection equipment.
- (2) Construct reporting channels: Refer to the safety reporting form of TPR and add a category in the internal reporting system. An alert will be sent to the supervision departments if a patient is infected due to a medical practice. The employees should instantly report to the hospital.
- (3) Develop monitoring indicators: Establish the indicators, "Internal Adverse/Infection Events Caused by Lasers and Optical radiation devices (Patients)," "Internal Adverse/Infection Events Caused by Lasers and Optical radiation devices (Employees)," and set the threshold as 0 case/year.

- (4) Supervise and Review: Organize independent lasers safety audits, incorporate them into the medical safety audits, conduct regular audits at clinical units, and report adverse/infection events to the committee quarterly.

Results

We began the indicator monitoring from Jan. 2022 to Dec. 2024; there were no adverse or infection events caused by lasers or optical radiation devices in the hospital.

Conclusion

Expanding the reporting scope through TPR, we have reduced the time on system implementation and demonstrated the spirit of TPR. We suggest applying our ideas to other hospitals in the future. We have established management programs to carefully review the units. This assurance can provide a safer environment for the staff and the patients.

Conflicts of interest related to this abstract: None

P-2067

Exploring Nursing Perspectives on Automated Dispensing Cabinets: Advancing Safety and Efficiency in a Tertiary Hospital

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Introduction

Fujairah Hospital, a tertiary care facility under Emirates Health Services, serves over 200,000 patients annually and has incorporated 18 Automated Dispensing Cabinets (ADC) across critical care units. This initiative aligns with the hospital's commitment to advancing healthcare practices through innovation and improving medication access. With the growing reliance on technology in healthcare, understanding the impact of Automated Dispensing Cabinets on nursing staff and patient care is crucial for optimizing their effectiveness in a complex, high-volume environment.

Aim/Objective(s)

This study evaluates nurses' perceptions of ADCs, focusing on their impact on workflow efficiency, equitable medication access, and patient safety improvements.

Methods

A survey-based study was conducted with 170 nurses working in units equipped with ADCs. Data were analyzed to identify demographic influences on ADC usage perceptions and to evaluate correlations between training adequacy, medication accessibility, and satisfaction levels. Statistical analyses assessed variations by age group, experience, and unit type.

Results

Among the predominantly female participants (89.4%) aged 30-39 years, 90% used ADCs daily, with 37.3% utilizing them 1-5 times per day. Key findings include:

- 53.5% strongly agreed that adequate training was provided.
- 54.1% strongly agreed that medicines are easy to locate.
- 86.5% reported ADCs improved workflow efficiency.
- 72.9% agreed ADCs significantly enhanced patient safety.
- 73.7% expressed complete satisfaction or were somewhat satisfied with the ADC system.

Statistical analysis revealed significant age-related differences in perceptions of training adequacy, ease of locating medicines, and barcode scanning usage. Female nurses reported stronger agreement on ADC efficiency and patient safety contributions compared to their counterparts

Conclusion

ADCs positively influence nursing workflows and patient safety while supporting sustainable and equitable medication management. The study highlights the importance of robust training, user-friendly design, and efficient restocking systems to maximize ADC benefits. These findings align with global efforts to advance pharmacy practice through technology-driven innovation and multidisciplinary collaboration. Further research and continuous improvements are essential to optimize ADC integration in diverse healthcare settings

Conflicts of interest related to this abstract: none

P-2068

Exploring the Effectiveness of Cross-Specialty Care by Nursing Personnel

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Introduction

Nurses constitute the largest professional group within the healthcare system. However, the global nursing shortage has reached 13 million, posing a serious challenge to healthcare quality and patient safety (WHO, 2023). According to the Taiwan Nurses Association, the nursing retention rate has continuously declined over the past three years, highlighting the urgent need to address workforce attrition. Cross-specialty training is considered an effective strategy to enhance nurses' professional adaptability and improve workforce flexibility within hospitals. However, previous studies have indicated that without clear planning, cross-specialty training may increase stress, hinder adaptation, and even negatively impact job satisfaction (Chen et al., 2022). Therefore, this study evaluates the current cross-specialty training programs and analyzes key factors influencing their effectiveness to provide recommendations for future optimization.

Aim/Objective(s)

The main objectives of this study are: (1) To evaluate the impact of cross-specialty training on nurses' satisfaction and willingness, in order to assess the effectiveness of the training. (2) To explore key factors influencing training satisfaction and willingness, including training content, training methods, and managerial support. (3) To propose strategic recommendations for optimizing cross-specialty training programs to enhance nurses' adaptability and strengthen their motivation for professional development.

Methods

This study adopted a cross-sectional questionnaire survey method to investigate nurses who participated in cross-specialty training between 2021 and 2023.

1. Study Participants and Sampling Method: The study targeted 270 nurses who had participated in cross-specialty training. Based on statistical data from the Nursing Department's Education and Research Committee, stratified purposive sampling was used. A total of 270 questionnaires were distributed, with 225 valid responses collected.

2. Research Instruments: The questionnaire consisted of three main sections: (1) Background variables (age, years of work ex-

perience, training unit attributes, etc.). (2) Satisfaction and willingness measurement (Likert five-point scale). (3) Evaluation of training impact factors (completeness of the training manual, support from the training unit, supervisor care, etc.).

3. Data Analysis: (1) Descriptive statistics to analyze sample characteristics. (2) Paired sample t-test to compare changes in satisfaction and willingness before and after training. (3) Multiple regression analysis to explore key factors influencing training effectiveness.

Results

1. Evaluation of Training Effectiveness: (1) After the training, nurses' satisfaction with cross-specialty training increased from 68% to 81% ($p < 0.01$), while their willingness increased from 30.3% to 79% ($p < 0.01$). (2) The average scores for knowledge and skill assessments were 87.5 and 88, respectively, indicating that the training contributed to enhancing professional competence.

2. Key Factors Influencing Training Effectiveness: (1) Similarity of Unit Attributes: Nurses showed higher adaptability and satisfaction with cross-specialty training when the new unit's patient care needs were similar to their original unit ($\beta = 0.42$, $p < 0.01$). (2) Completeness of the Training Manual: Providing structured and practical training guidelines significantly improved satisfaction ($\beta = 0.38$, $p < 0.01$). (3) Supervisor Support: Active care and guidance from supervisors had a significant positive impact on nurses' evaluations of the training ($\beta = 0.35$, $p < 0.01$).

Conclusion

The results of this study indicate that revising the cross-specialty training manual, optimizing the unit matching mechanism, and enhancing supervisor support can significantly improve nurses' satisfaction and willingness. Additionally, hospital management should implement the following measures to ensure the long-term effectiveness of cross-specialty training:

1. Establishing a standardized cross-specialty training model: Based on the findings of this study, a structured and practical training manual should be provided, ensuring consistency in training content across different units.

2. Strengthening supervisor and senior nurse support mechanisms: A formal "Cross-Specialty Training Mentorship Program" should be established to help nurses adapt more quickly to new environments and reduce psychological stress.

3. Developing a long-term tracking mechanism: Regular assessments of nurses' adaptation should be conducted, with continuous optimization of training content and methods based on feedback.

The results of this study can provide hospital management with empirical evidence to support the optimization and promotion of future cross-specialty training programs, thereby enhancing nurses' professional competence and workforce flexibility.

Conflicts of interest related to this abstract: None

P-2069

Exploring the Effectiveness of Promoting Hospital-Wide Patient Transfer Safety and Quality Management in a regional teaching hospital in Taiwan

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Introduction

This study explores strategies to enhance the safety and quality of intra-hospital patient transfers, aiming to reduce unexpected life-threatening incidents during transfers. Additionally, it seeks to ensure that healthcare personnel experience both safety and

convenience throughout the transfer process, ultimately guaranteeing that patients receive appropriate treatment. In Taiwan, the Ministry of Health and Welfare is the highest authority overseeing public health, medical services, and social welfare. It promotes hospital medical quality and patient safety across healthcare institutions. One of its key objectives is to foster teamwork and effective communication among medical personnel. Efficient collaboration and clear communication within healthcare teams help reduce medical errors, minimize risks caused by misunderstandings or information gaps, and improve diagnostic efficiency and overall healthcare quality.

Aim/Objective(s)

This study aims to enhance the safety and quality management of hospital-wide patient transfers, ensuring stable and secure care while minimizing unexpected life-threatening events. Patient transfers involve multiple medical units and healthcare professionals, and without standardized procedures and effective communication, they may lead to treatment delays or safety risks. Therefore, this study analyzes existing transfer mechanisms to identify key factors affecting safety and quality, establishing standardized operating procedures (SOPs) to improve teamwork and information flow. Additionally, through education, training, and clinical quality audits, it ensures that medical personnel develop safety awareness and expertise in patient transfers. Ultimately, the study seeks to enhance overall hospital medical quality and patient safety, providing better healthcare services.

Methods

In 2024, a randomized sample of 360 hospitalized patients who experienced at least one transfer during their hospital stay was selected as the study subjects. A structured audit checklist was used to conduct a preliminary exploration of the outcomes following the implementation of patient transfer safety action strategies. These strategies included: 1. Integrating transfer safety into the hospital's patient safety care policy to strengthen institutional support; 2. Establishing standardized operating procedures (SOPs) for patient transfers across the hospital and uploading them to the hospital's document management system; 3. Developing a transfer quality audit plan and a patient transfer safety checklist; 4. Conducting internal and external audits on a monthly basis as per the plan; 5. Implementing an immediate improvement mechanism for cases that fail the audit; 6. Ensuring each department follows up on and sustains improvements to maintain transfer quality; 7. Build a transfer safety information platform to enhance the efficiency of medical information transmission.

Results

The effectiveness of the patient transfer safety action strategy was confirmed through the use of a structured audit form, comparing data before (January to June 2024) and after (July to December 2024) the implementation of the strategy. The results showed that the completion rate of patient transfer safety execution increased from 64.5% before implementation to 80% after, indicating improved adherence to transfer safety standard operating procedures by healthcare staff. The incidence of abnormal events during the patient transfer process was 0%, and the incidence of abnormal events after transfer in the examination rooms was also 0%. For patients with high disease severity, categorized as level A or level B transfers, the establishment of the transfer safety information platform allowed for real-time linkage and prompts to remind healthcare staff of changes in vital signs that should be monitored during the transfer. The analysis revealed that transfer safety risks for level A and B patients decreased from 56% before implementation to 23% after. Additionally, healthcare staff satisfaction with the execution of the patient transfer standard operating

procedures increased from 66.4% before implementation to 91.2% (n = 50) after.

Conclusion

Patient safety requires joint efforts from both medical professionals and patients. Promoting hospital-wide patient transfer safety and quality management can significantly enhance the safety and quality of patient transfers. By establishing standardized operating procedures and a digitalized transfer safety platform, hospitals can effectively reduce medical incidents and minimize risks during patient transfers, particularly for critically ill patients classified as Category A and B. Furthermore, these measures strengthen interdisciplinary teamwork and ensure the timely exchange of patient information, thereby improving compliance and satisfaction among healthcare professionals. For patients, these improvements also enhance their sense of security throughout the transfer process. In the future, the transfer information platform will continue to be optimized, gradually evolving into a long-term, effective patient safety management system for hospitals. This will further enhance the hospital's brand image and social trust.

Conflicts of interest related to this abstract: None

P-2070

Fall prevention intervention for patients on closed psychiatric ward: applying the Edmonson Psychiatric Fall Risk Assessment Tool (EPFRAT)

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Introduction

Falls are one of the most common types of harm that occur in medical institutions, and they can result in a variety of outcomes, ranging from no harm to fatal physical damage such as death. In particular, falls in psychiatric wards occur in unpredictable situations, unlike falls in general wards, and they are becoming a serious problem because they occur more frequently than in general wards. The reason why falls are frequent in psychiatric wards is that patients admitted to psychiatric wards have various complex characteristics such as medication, anxiety, depression, sleep disorders, and poor nutrition, but they are in a very unique environment where physical activity must be encouraged for therapeutic purposes, which can cause falls. Therefore, this activity aims to minimize the occurrence of falls by applying a fall assessment tool suitable for psychiatric inpatients and preventing and intervening in falls according to the characteristics of psychiatric inpatients.

Aim/Objective(s)

The purpose of this quality improvement activity is to promote patient safety by screening patients at high risk of falling using a fall risk assessment tool that is suitable for the characteristics of patients admitted to a psychiatric ward and carrying out preventive activities accordingly. The indicators for evaluating the effectiveness were the reduction in the average monthly number of falls, including injuries, the reduction in the number of repeated falls by the same patient and the reduction in the number of falls due to loss of balance.

Methods

From March to April 2024, we analyzed the reports of fall accidents that occurred in the closed ward of the psychiatric ward, and reviewed and schematized the process to prevent fall accidents that occurred in the closed ward of the psychiatric ward in April. From April to May, the causes of the falls that occurred in the psychiatric ward were analyzed using fishbone analysis,

and activities were carried out according to the priority of the fall prevention activities drawn from June to September. The number of fall accidents from January to May before the intervention and the number of fall accidents from June to September were compared as the average monthly number of fall accidents.

Results

Analysis of the 2023 fall accident report showed that psychiatric falls frequently occurred but were not harmful, and were characterized by repeated falls by the same patient. The main causes of falls were intentional falls by patients, such as suicide, self-harm, and attention-seeking, and a state of loss of balance in walking and activity situations. Through a review of the fall prevention process, the lack of fall assessment tools tailored to the characteristics of psychiatric patients and the lack of interventions for activity and repeated falls were identified as the root causes. As part of the improvement activities, the Fall Risk Assessment Tool for Psychiatric Patients (Edmonson Psychiatric Fall Risk Assessment Tool) was applied, and dance movement classes were designed and conducted four times a week to improve the strength and balance of psychiatric patients to prevent falls caused by losing balance during activities. Interest was given by providing positive attention through rewards for fall prevention behaviors to prevent repeated falls. As a result, the average number of falls per month decreased by 52.7%, the number of repeated falls decreased by 44.4%, and the number of falls due to loss of balance decreased by 66.8% after the fall prevention activities.

Conclusion

This study showed that the application of a fall risk assessment tool according to the characteristics of psychiatric patients and the corresponding prevention activities are necessary to prevent falls in psychiatric inpatients. The fall rate of psychiatric inpatients tends to be at least three to four times higher than that of general wards, and there are risk factors for falls characteristic of psychiatric patients, such as medication, anxiety, depression, psychosis, poor judgment, sleep disorders, and poor nutrition, that should be reflected in the fall risk assessment tool. However, most hospitals use single fall assessment tools that have not been validated for psychiatric patients, so this study has been able to promote the application of validated fall assessment tools for psychiatric patients. In addition, by devising and repeatedly applying dance programs to improve the strength and balance of psychiatric patients, it can be said that this is an activity that is helpful for patients who need to take medication and manage their psychiatric illnesses in the long term. Finally, the analysis of fall accidents revealed that the same patient repeatedly fell, which also provided a clue to prevent falls in psychiatric patients by providing positive rewards for intentional fall prevention.

Conflicts of interest related to this abstract: None

P-2071

Fit for BANI – Strengthening Resilience in Health Care Facilities

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Introduction

Transformation processes necessitate ongoing change and continuous development of healthcare facilities to ensure future success. The prevailing challenges within BANI (brittle, anxious, non-linear, and incomprehensible) can be surmounted

by organizations through enhanced resilience, adaptability, transparency, and increased empathy. This necessitates clinics to be oriented towards change capacity. Employees must be equipped with specific organizational, team and personnel development skills, while managers must possess the requisite leadership skills (Körner, 2024). Healthcare facilities demonstrating a high level of organizational readiness for change and resilience are likely to be the most sustainable. Resilient managers and employees, working in resilient teams and organizations, are better prepared to act and make decisions in change situations. The current challenges in healthcare require that all healthcare facilities be geared towards the ability and willingness to change.

Aim/Objective(s)

The aim was to identify key challenges and adaption strategies for increasing resilience in healthcare facilities.

Methods

A series of interviews were conducted with middle management in rehabilitation clinics in German-speaking Switzerland and each interview lasts for approximately 30 minutes. The guide commences with introductory questions regarding the role of the participant, the clinic they work in, their experience, interdisciplinary cooperation, and their management style. The second section addresses challenges, including pressure to change, shortage of skilled workers, digitalization, economization, changes in patient demographics, and sustainability. The third section focuses on how to deal with change, exploring existing processes, the perception of uncertainty, and securing the future. The fourth and final section concludes with open questions, comments, and information about the project's further course. The thematic analysis undertaken according to Braun & Clarke (2016) enabled the identification of recurrent patterns within the statements, which were subsequently condensed into overarching categories.

Results

The analysis yielded four categories: (1) leadership style & organization, (2) interdisciplinary collaboration, (3) pressure to change & challenges, (4) adaptation & innovation strategies.

(1) The majority of clinics adopt a participatory management style. However, in certain hospitals, the decision-making process was found to be hindered by overabundance of contributors. Conversely, the promotion of personal responsibility was identified as a pivotal component of contemporary leadership culture.

(2) The concept of interdisciplinary collaboration was predominantly viewed in a favorable light (e.g. structured meetings). Digital tools were recognized as a valuable support mechanism for team communication, while challenges were identified as arising from high staff turnover and frequently inadequate coordination between different health professions.

(3) Key topics included increasing cost pressure resulting from the DRG system, reactive instead of proactive change management, shortage of skilled workers and multimorbid and complex patient groups, as well as changes in patient expectations and the burden on staff due to increasing demands.

(4) To meet these challenges, clinics are increasingly relying on international recruitment of skilled workers, digital process optimization and new care models. Flexible working time models are increasingly being offered to employees to reduce stress. The need for interdisciplinary coordination and digitalization was emphasized.

Conclusion

Thematic analysis indicates that clinics are confronted with mounting financial constraints, a paucity of skilled personnel, and a shifting demographic of patients. Notwithstanding these challenges, there are encouraging approaches to surmounting

these difficulties, notably through the implementation of a proactive change management strategy. It is imperative to cultivate an appreciative leadership culture, in conjunction with investments in contemporary technologies and personnel development, to ensure the sustainable future of inpatient rehabilitation. To this end, tailored approaches to support are necessary, including team coaching, specific training, and the implementation of change agents. A pivotal element in enhancing resilience lies in cultivating a culture of adaptability and proactive change management. To this end, leaders must empower employees by providing continuous education and fostering interprofessional exchange to enhance collaboration and knowledge-sharing. Furthermore, hospitals must prioritize the mental and physical well-being of staff to ensure long-term sustainability in high-pressure environments. The integration of digital solutions, such as AI-driven administrative support, has the potential to markedly reduce loss of information at sector boundaries, workload burdens, and improve efficiency. Further studies should focus on strengthening resilience through improving interprofessional collaboration, establishing contemporary leadership strategies, and innovative organizational strategies to navigate the challenges posed by BANI environments effectively.

Conflicts of interest related to this abstract: None

P-2072

Fluorescence Technology in Bariatric Surgery: Enhancing Tissue Perfusion Assessment and Leak Prevention

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Introduction

Bariatric surgery is an effective intervention for obesity and related metabolic disorders, yet complications like ischemia-related leaks remain a concern. Indocyanine green (ICG) fluorescence angiography is a real-time intraoperative imaging tool that enhances tissue perfusion assessment and vascular mapping. This study examines its role in laparoscopic sleeve gastrectomy (LSG) and gastric bypass, focusing on its ability to identify blood supply variations, preserve vascular integrity, and prevent staple-line leaks, ultimately improving surgical safety and patient outcomes. Al Qassimi Hospital is among the first government hospitals in the UAE to adopt ICG fluorescence technology and the first within Emirates Health Services (EHS). Beyond bariatric surgery, ICG is utilized for thyroid and parathyroid surgery, diabetic ischemic foot management, bowel and mesenteric ischemia, and hepatobiliary procedures to enhance vascular assessment, guide resections, and improve surgical precision.

Aim/Objective(s)

1. To evaluate the efficacy of ICG fluorescence angiography in assessing vascular perfusion during LSG and gastric bypass.
2. To determine the impact of fluorescence imaging on staple-line integrity and leak prevention.
3. To compare fluorescence technology with traditional intraoperative leak testing methods.
4. To assess whether fluorescence imaging can improve postoperative outcomes and reduce complications.

Methods

This study was conducted at Al Qassimi Hospital, UAE, analyzing patients undergoing laparoscopic sleeve gastrectomy (LSG) and gastric bypass with intraoperative ICG fluorescence angiography. The methodology included:

- ICG administration via intravenous injection and visualization using near-infrared (NIR) light.
- Real-time assessment of tissue perfusion at the gastric sleeve, gastroesophageal junction, and anastomosis sites.
- Comparison of fluorescence findings with conventional leak tests (methylene blue/gastrografin).
- Evaluation of postoperative outcomes, including leak rates, complications, and recovery metrics.

Results

Fluorescence imaging provided superior visualization of vascular supply variations, allowing surgeons to make intraoperative adjustments to preserve key vessels. Key findings included:

- Reduced ischemia-related leaks: No leaks were detected intraoperatively using fluorescence guidance, compared to a 1.5% leak rate with conventional methods.
- Improved staple-line and anastomotic assessment: ICG fluorescence highlighted areas of compromised perfusion, leading to better surgical decisions.
- Enhanced safety: Compared to methylene blue testing, fluorescence imaging provided real-time, dynamic visualization without tissue staining.
- Faster recovery and lower complication rates among fluorescence-guided cases.

Conclusion

ICG fluorescence angiography enhances surgical precision, reduces the risk of staple-line leaks, and improves patient safety in bariatric surgery, including LSG and gastric bypass. By allowing real-time perfusion assessment, fluorescence technology provides a more reliable and dynamic alternative to traditional leak testing. The integration of fluorescence imaging into bariatric surgical protocols can optimize intraoperative decision-making, minimize complications, and enhance overall outcomes. Future directions include expanding the use of fluorescence imaging in robotic-assisted bariatric procedures, integrating AI-enhanced perfusion analytics, and standardizing fluorescence protocols in bariatric surgery. As minimally invasive techniques continue to evolve, fluorescence technology represents a significant advancement in ensuring patient safety and improving bariatric surgical outcomes. In bariatric surgery, maintaining adequate blood flow to the stomach and intestines is crucial. Poor blood flow can lead to complications such as tissue necrosis or leakage at the surgical site.

Conflicts of interest related to this abstract: None

P-2073

Frequency of electrocardiographic alterations in military population with Chagas in Colombia. Hospital Militar Central Colombia 2012-2024

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Introduction

Chagas disease is a parasitic condition caused by the flagellated protozoan *Trypanosoma cruzi*, which circulates among hematophagous insects of the subfamily Triatominae and about 150 mammalian species, including humans. The zone with endemicity includes 21 continental countries of the Americas. It is estimated that there are between 6 and 8 million people infected there and that each year there are about 30,000 new cases by vector transmission. The disease is concentrated in peasant communities, however, human migratory movements urbanized the disease. Some populations also can be at high risk for infection, including military personnel who are in endemic areas patrolling in rural or jungle environments. Up to

35% of acute Chagas disease cases have complications, the most common of which are pericardial effusion, myocarditis, arrhythmias and heart failure. In the chronic phase of the disease, disorders of the cardiac electrical conduction system and heart failure are frequently observed.

Aim/Objective(s)

To describe the population diagnosed with Chagas disease in demographic and clinical terms at the Hospital Militar Central in Bogotá. To estimate the frequency of electrocardiographic and imaging abnormalities in patients diagnosed with Chagas disease.

Methods

The clinical departments of cardiology and tropical diseases have been collecting information on patients treated with Chagas disease since 2006. This database is added to demographic and clinical images, diagnostic images, electrocardiograms, and clinical outcomes information. The purpose of this information is to evaluate administrative and clinical aspects of patients treated for this disease at the Hospital. This report focuses on clinical aspects, especially the electrocardiogram findings at the diagnosis of these patients upon arrival at the Hospital. This report was approved by the Research Ethics Committee of the Central Military Hospital of Bogotá.

Results

Information on 228 patients diagnosed since 2006 is presented. 63% of patients are men (144/228). The age distribution is bimodal, a group of young patients, usually soldiers and acute, and another group of older patients, usually with chronic disease. Cases in women are mostly over 60 years of age, on the contrary, in men who present in <60 years. The majority were soldiers (73.7%; 168/228) and 95% belonged to the army forces. More than a third of the patients (35%) come from 3 departments, Arauca, Casanare and Meta. Most patients present with preserved Left Ventricular Ejection Fraction (LVEF) and 10.7% have some type of abnormality. Chest x-ray is usually normal in 19 out of 20 patients. 4.8% of patients present with cardiomegaly. The most frequent alteration to the EKG is blockage (16.7%), the most frequent being the right bundle branch (12.1%). However, between arrhythmias and repolarization disorders they are 10.7%. 22.4% (51/228) required management with devices. Treatment with pacemaker implantation is the most common device in these patients (49%; 25/51).

Conclusion

Disease with two peaks in frequency by age and clinical presentation. Most patients present without clinical or imaging findings, which calls for a better delimitation of the diagnostic strategy. The cases are distributed throughout the country and more so in the areas of greatest intensity of defense of sovereignty in Colombia. The clinical findings reinforce the idea of screening for Chagas disease in patients who stay for long periods of time in areas of greater endemicity of Chagas disease. Other studies have reported a high frequency of electrocardiographic abnormalities that increase with age, suggesting that there should be stricter clinical, electrocardiographic and cardiac imagen follow-up in patients who have been seropositive for Chagas disease in the past, especially after the fourth decade of life. It is proposed to intensify educational actions for health personnel so that they consider the differential diagnosis of Chagas disease in the event of a fever of unknown origin in a patient from endemic areas of this disease and make an early diagnosis. Due to the characteristics of this population that is managed in the Hospital, the frequency of electrocardiographic, echocardiographic and imaging findings is of low frequency.

Conflicts of interest related to this abstract: None

P-2074

From Bottleneck to Breakthrough: Revolutionizing BCG Treatment Delivery in Bladder Cancer Care

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Introduction

Bacillus Calmette-Guerin (BCG), a live attenuated strain of *Mycobacterium bovis*, is an effective intravesical treatment for bladder cancer recurrence. However, its preparation and administration at the National University Hospital (NUH) in Singapore faced significant challenges. Due to the potential for contamination risks and stability of the drug post reconstitution and dilution, the process involved complex logistics and scheduling constraints leading to extended patient waiting times and inefficient resource utilization. More than half of patients waited over two hours for treatment, and last-minute cancellations of treatment caused drug wastage. These negatively impacted patient experience, treatment efficacy, and operational efficiency significantly. The project aimed to address these challenges through innovative workflow redesign and interdepartmental collaboration, focusing on improving the BCG preparation and administration process to enhance patient care and operational efficiency.

Aim/Objective(s)

The primary objective was to reduce patient waiting time by 50%, ensuring all patients receive BCG treatment within 1 hour of arrival. Secondary objectives included improving patient experience and satisfaction, improving drug efficacy through timely administration, optimizing pharmacy resource utilization, and empowering nursing staff to reconstitute cancer drugs.

Methods

A multidisciplinary team from the Urology and Pharmacy departments at NUH implemented a comprehensive workflow redesign to improve BCG administration. The team conducted extensive research to identify a suitable closed system for bedside BCG preparation. A closed-system transfer device was selected and procured. Urology nurses were trained by aseptic pharmacists to safely reconstitute BCG at patient's bedside. The drug preparation process was relocated from the pharmacy clean room to the Urology Centre procedure area, eliminating transport delays and multiple handovers. The team also revised the drug ordering process, allowing pre-delivery of powdered BCG to the Urology Centre a day before treatment. This workflow also allowed a change in the timing of reconstitution of BCG from one hour to just five minutes prior to administration, potentially enhancing drug efficacy. These changes were implemented on September 4, 2023, following thorough planning and staff preparation.

Results

Post-implementation data collected over one month demonstrated significant and sustained improvements in the BCG administration process.

- The average patient waiting time decreased by 68%, from 198 to 64 minutes, with 100% of patients receiving BCG within one hour of triage, up from 33% previously.
- Pharmacy turnaround time reduced by 79%, from 94 to 20 minutes per case, resulting in an estimated 13-18 pharmacy manpower hours saved monthly.
- Patient satisfaction improved markedly, with all patients rating their experience as good (3 or 4 out of 4), compared to 50% pre-intervention.

- Additionally, the potential for improved drug efficacy was noted due to minimized time between reconstitution and administration.

These positive outcomes have been consistently maintained since project implementation, underscoring the long-term sustainability of the workflow redesign.

Conclusion

This project successfully transformed the BCG treatment process, addressing multiple pain points simultaneously. By reimagining workflow, empowering nurses, and fostering interdepartmental collaboration, the team achieved significant improvements in patient wait times, satisfaction, and operational efficiency. The initiative enhanced the quality of care while optimizing resource utilization across departments. This model of process redesign demonstrates the value of interdepartmental collaboration and innovation in healthcare settings, leading to substantial improvements in patient-centred care and operational effectiveness. The success of this initiative offers a replicable framework for other departments and hospitals worldwide facing similar challenges in cancer treatment delivery. The project's outcomes highlight the potential for significant improvements in healthcare processes through thoughtful redesign and collaborative efforts.

Conflicts of interest related to this abstract: None

P-2075

From risk to resilience: improving patient safety through a combined approach of risk assessment and in-situ simulation situ

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Introduction

Since 2021, the OSG has been working with the Cantonal Simulation Centre (CeSi-CPS) to develop an on-site simulation programme for various medical disciplines. While the training of individuals and teams is essential for improving patient safety and outcomes, but it is not sufficient on its own. ORBV and CeSi-CPS applied an innovative approach to healthcare simulation that goes beyond traditional training. In situ simulation programme, thus a series of simulations conducted directly in the clinical environment, using real teams, equipment, and workflows, was combined with a clinical-organisational risk assessment programme. On-site simulation provides a safe environment for healthcare workers to improve their technical and non-technical skills, promoting communication, leadership and teamwork directly in their clinical environment, identifying system inefficiencies, improving patient safety, and optimizing workflows within real clinical environments improving patient safety and quality of care in accordance with the principles of translational simulation.

Aim/Objective(s)

Our programme combines in-situ simulation with risk assessment to promote a culture of safety that values adaptability and

flexibility in patient care. The main objective is to improve patient safety by identifying hidden hazards, implementing preventive measures and optimising clinical and organisational processes. Simulation allows healthcare teams to test alternative solutions in a safe environment, evaluate the effectiveness of protocols and improve the management of critical situations. A key aspect is the emergence of compensatory practices, often unconsciously adopted by professionals to cope with systemic inefficiencies. The programme also promotes cultural change by encouraging active risk reporting and continuous improvement.

Specific objectives include:

1. Develop practical and interpersonal crisis management skills;
2. Reducing the learning curve;
3. Improve teamwork and psychological safety.

Methods

ORBV uses in-situ simulation as a prospective analysis to observe staff behaviour and the effectiveness of safety barriers in real time to prevent or mitigate risks. The simulated scenarios are developed from real events or near misses. The methodology involves process mapping to analyze the clinical workflow, followed by risk identification using assessment techniques like HAZOP analysis. The Sim Scenario Canvas is utilized to construct realistic scenarios, ensuring alignment with learning objectives and desired outcomes. Data is collected through observation and/or self-assessment questionnaires to objectively assess the level of skills and the effectiveness of the actions and behaviours adopted during the scenario. The debriefing is conducted using the De-roling, Description, Analysis, and Application method. The end of the process is a post-analysis based on London Protocol (C. Vincent, 2024), in order to identify critical issues and good practices, and to turn the experience into a learning opportunity.

Results

The in-situ simulation programme at the ORBV became more structured in 2023 and 2024, integrating high-fidelity human patient simulators, low-fidelity error chamber simulations and professional actor-led scenarios to improve skills in critical situations. In 2024, over 450 professionals from medicine, surgery, paediatrics, and oncology participated. High-fidelity simulations tested new standard operating procedures in emergency situations such as postpartum haemorrhage; extrauterine pregnancy in gynaecological emergencies. Four clinical scenarios were developed in medical, oncology and paediatric room of errors, covering 80 errors in 57 simulation sessions. Data showed a 70% error recognition rate, highlighting time as a critical factor in risk perception, while peer discussion facilitated learning. During Patient Safety Week 2023, actor-led simulations helped healthcare providers navigate difficult communication scenarios. These simulations focused on verbal aggression management. Results highlighted the importance of developing soft skills, non-verbal communication, negotiation skills and emotional awareness to prevent emotional projection onto patients. Incident reporting confirmed the impact of the programme. Between 2022 and 2024, the proportion of near misses increased from 30% to 42%, indicating greater safety awareness. The systematic use of simulation will continue to strengthen the culture of safety and promote a more informed and resilient approach to patient care.

Conclusion

Our approach goes beyond simple training and turns simulation into a true stress test of the healthcare system, with the aim of identifying latent vulnerabilities and strengthening operational safety. The innovation of the ORBV project lies in the integration of risk management methodologies and advanced simulation, used not only to train staff but also to evaluate the effectiveness

of protocols and procedures before their implementation in clinical practice. To make this approach systematic, we have introduced continuous monitoring of simulation outcomes. A distinctive element of our methodology is the integration of simulation into clinical routines, involving not only trainees but also experienced practitioners, thereby enhancing their ability to identify and manage risks in daily activities. This promotes a proactive approach to safety and continuous improvement, while optimising risk mitigation strategies. Our dynamic risk assessment model not only assesses known risks, but also stresses the system under conditions of high complexity, verifying the effectiveness of safety barriers in real time and helping to increase organisational resilience. Our model can be replicated in other facilities, driving cultural change in safety management and making simulation a best practice for continuous improvement in quality and safety of care.

Conflicts of interest related to this abstract: None

P-2076

FROM VOLUME TO VALUE MEASUREMENT: THE EXPERIENCE OF DESIGNING AND IMPLEMENTING AN OUTCOME MEASUREMENT UNIT IN A HEALTH CARE ORGANIZATION

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Fundación Santa Fe De Bogotá, Colombia

Introduction

Since 2013, Fundación Santa Fe de Bogotá (FSFB) has prioritized the delivery of high-value services as its core strategy, accompanied by a range of financial strategies and reorganization efforts that enhance service provision, governance, and health outcomes measurement. To comply with this last aspect, in 2021, a specialized unit was established to measure outcomes in 25 clinical conditions within a comprehensive patient-centered framework. Comprising a multidisciplinary team of a clinical psychologist and six nurses, the unit faces the daily tasks of designing, measuring, and communicating patient outcomes to key stakeholders in order to promote continuous improvement of healthcare models.

Aim/Objective(s)

The primary objective of this oral presentation is to showcase the design and implementation experience of a Health Outcomes Measurement Unit within a highly complex healthcare organization in Bogotá, Colombia. This initiative aligns with the institution's adoption of a value-based healthcare strategy, indicating a shift from volume-centric indicators to patient-centered health outcomes measurements, thereby enhancing the promotion of value.

Participants will gain practical insights to apply in their own institutions or use as a benchmark for their work, including:

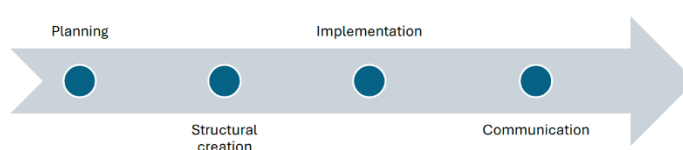
- How to develop an outcomes measurement approach that aligns with the institution's core value strategy?
- How to design the process of a Health Outcomes Measurement Unit from the beginning?
- How to establish the best benchmarks for assessing and improving outcomes performance?
- How to present data to stakeholders and publish it for continuous improvement of clinical models?
- How to tailor continuous challenges arising from outcomes measurement?

Methods

The Health Outcomes Unit was established as a structured process with four main phases (Figure 1). Phase 1 (Planning) involved defining specific tasks, goals, and professional roles to achieve the project's overall objective. Phase 2 (Structural cre-

ation) focused on hiring personnel and establishing the necessary resources for implementation (prioritization of clinical conditions susceptible to outcome measurement, definition of outcomes to be measured with their respective sources of information and development of a digital data management system). Phase 3 (implementation) involved operationalizing outcomes measurement for prioritized conditions within the whole clinical journey of patients, in regular time points (from hospital admission to at least one year follow-up), and with a comprehensive approach that included Clinical-rated outcomes (CROMS), functional outcomes, mental health outcomes, sexuality outcomes and Patient Reported Outcomes (Figure 2). Phase 4 (communication) focused on presenting data to stakeholders and publishing it for continuous improvement of clinical models, ultimately benefiting patients.

Figure 1. Roadmap of Outcomes Measurement Unit development.



Results

Through a 3-year period of The Outcomes Measurement Unit functioning (November 2021 to November 2023), we have defined and implemented a set of 251 outcomes (172 CROMS, 18 functional, 33 of mental health, 4 of sexuality, 24 PROMS) in 25 clinical conditions, measuring a total of 38,110 patients. We currently benchmark 113 of these outcomes against rigorous national and international standards, achieving equal or better performance in 89% of them. For 44 outcomes, we have established a 1-year baseline with our historic data (in absence of an external accurate benchmark) to enable comparisons with subsequent performance, and to date, 43 of these outcomes (98%) currently demonstrate improvement compared to the baseline. Efforts are ongoing to identify suitable benchmarks or establish robust baselines for the remaining 94 outcomes, thereby informing the development of key improvement indicators (Appendices, Table 1).

Table 1. Outcomes Unit performance compared to scientific benchmark or baseline.

Outcomes Classification	Number of Outcomes	% of Outcomes	Outcomes equal or better than benchmark or baseline
Comparable Outcomes	157	63%	-
With scientific benchmark	113	72%	101 (89%)
With our historic baseline data	44	28%	43 (98%)
Non-Comparable Outcomes	94	37%	-
Total	251	100,0%	144 (92%)

Conclusion

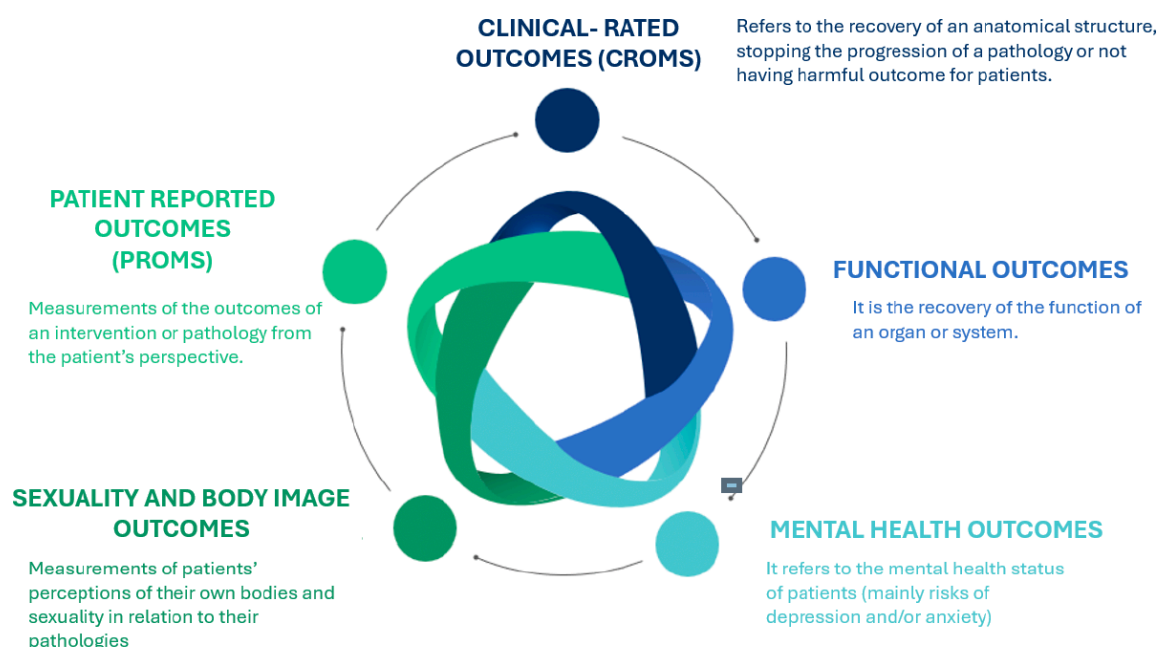
Building a Health Outcomes Measurement Unit has been a valuable learning experience, demonstrating that outcomes measurement from a comprehensive and patient-centered perspective is definitely the way to understand our commitment to value-based care as well as to assess our clinical performance. While challenges like defining relevant outcomes, collaborating with clinical leaders, and selecting appropriate measurement and digital tools arose, we can now answer fundamental outcome-related questions for specific patient groups. Also, combining outcomes that are clinically important (CROMS) with those that matter to the patient (PROMs) has been shown to be a key strategy for ensuring an effective approach to clinical management, patient experience and quality improvement.

Nonetheless, all this rises new and increasingly complex questions such as how to utilize these results for continuously improving health models. Future efforts include creating or participating in benchmarking systems, integrating outcome measurements throughout the whole care journey (not only acute in-hospital settings), developing clear communication strategies

for various stakeholders, and optimizing the technology and innovation supporting the Outcomes Unit's operations. By addressing these essential aspects, we can solidify our commitment to ongoing quality improvement and value-based care, beyond volume-centric measurements.

Conflicts of interest related to this abstract: None

Figure 2. Comprehensive measurement approach of Outcomes Unit.



P-2077

Gamification as an Enjoyable Experience and Competent Teaching Strategy in Nursing Students' Clinical Practicum in Taiwan: A Quasi-Experimental Study

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Introduction

Gamification has been increasingly used in nursing education to enhance clinical competence, yet its application in real-world clinical practicums remains underexplored. Nursing students often face high stress and challenges in applying theoretical knowledge to practice, which can hinder their development of essential clinical skills. Traditional teaching methods may not fully engage students or provide effective hands-on learning experiences. At Chang Gung Medical Foundation, a leading healthcare provider in Taiwan, ensuring high-quality clinical training is crucial for preparing future nurses. However, a gap exists in integrating gamification strategies to improve learning outcomes in clinical settings. This study examines the impact of a gamification-based teaching approach in nursing practicums, focusing on enhancing engagement, knowledge retention, and critical thinking. By implementing innovative educational strategies, this initiative aims to bridge the gap between theory and practice, ultimately strengthening clinical competence and improving patient care quality.

Aim/Objective(s)

Many nursing educational programs use gamification to improve students' clinical competence. However, its integration into practice remains underexplored, creating a critical gap in nursing education that may hinder students from developing

essential clinical competence. This study explored the impact of a gamification-based strategy in providing nursing students with enjoyable learning experiences in clinical practicums.

Methods

The study was conducted in Taiwan from September 2021 to June 2022. A quasi-experimental one-group pre- and posttest study design was applied. Participants comprised a convenience sample of 39 nursing students during their clinical practicum. Gamification was implemented as an instructional strategy over a one-month period, with educational sessions conducted five days a week for two hours each. Data were collected using the Enjoyable Learning and Nursing Students Competence Scale. Statistical analyses were performed using MedCalc software, version 22.009. Wilcoxon signed-rank test, Mann-Whitney U test, Kruskal-Wallis H test, and Spearman correlation coefficients were used for data analysis with p -values of $<.05$ considered significant.

Results

The gamification-based strategy significantly enhanced nursing students' enjoyable learning in nursing practice ($Z = -5.44$, $p < .001$). A significant positive correlation was identified between enjoyable learning experiences and core nursing competency levels, including basic medical knowledge ($r_s = .47$, $p = .002$) and critical thinking ($r_s = .31$, $p = .049$), indicating that students who experience higher levels of enjoyment in learning recorded greater improvements in these competency domains.

Conclusion

Gamification-based educational tools effectively enhance nursing students' clinical learning and core competencies. Therefore, integrating gamification into traditional teaching methods can improve students' readiness for clinical practice.

Keywords: Nursing Education Research; Gamification; Preceptorship, Nurses, Nursing Students

Conflicts of interest related to this abstract: none

P-2078

Girona's Endocrinology and Diabetes Unit: A Longstanding Success Story Where Less Is More

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Introduction

Since 2006, under a collaborative framework funded by CatSalut, the public health insurance body in Catalonia under the Department of Health, a team of 14 professionals has successfully provided care for endocrine patients in Girona, despite a low ratio of endocrinologists – fewer than 1.5 per 100,000 inhabitants. This figure is significantly below the reported national and regional ratios in Spain and Catalonia, which range from 2.8 to 2.9 per 100,000 inhabitants. Delivering timely, accessible, high-quality care with a limited workforce is challenging and requires collaboration with primary care and specialists. This coordination focuses on optimizing patient flow, ensuring appropriate care, and maximizing value through a patient-centered approach.

Aim/Objective(s)

- To assess whether the low ratio of endocrinologists in our region negatively impacts patient access to endocrine care across different hospitals, as measured by the average wait time for first consultations over the past three years.
- To evaluate activities conducted at the referral center, community hospitals, and primary care consultations.
- To analyze the impact of the endocrinology and diabetes day hospital on hospital admissions.
- To highlight right-care initiatives developed in collaboration with other specialties over recent years, including diagnosis and follow-up of thyroid nodules, adrenal incidentalomas, prolactin disorders, and the indications for endocrinology evaluations in obesity and type 2 diabetes. Additionally, an Interdisciplinary Diabetes Foot Clinic, an Interdisciplinary Nutrition Support Team have been established and proactive care for hospitalized patients with hyperglycemia is also provided.

Methods

- Analysis of waiting lists and endocrinology clinic activity at the referral center (Hospital Universitari de Girona) and community hospitals served by UDENTG professionals (Blanes, Figueres, Palamós, Olot, Salt).
- Evaluation of outpatient activity at both the referral center and community hospitals, along with consultant interactions with primary care.
- Analysis of inpatient consultation activity at the referral center.
- Description of initiatives aimed at establishing high-value, appropriate diagnosis and follow-up protocols.

Results

The report includes a benchmarking analysis of endocrinology services across different health regions in Catalonia. Key findings include:

- First Consultations with Endocrinologists (2022–2023): Girona accounted for 6–8% of total endocrinology consultations, despite representing 10% of Catalonia's population.
- Waiting Times for First Consultations (2022–2024): Average waiting times increased from 46 days in 2022 to 51 days in 2023, before slightly decreasing to 49 days in 2024. These figures align with Catalonia's overall average, though improvement opportunities remain.
- Service Distribution in Girona (2014–2024): 40% of first consultations take place in community hospitals, reflecting a decentralized approach.
- Strategic Areas & Protocols: Emphasis on thyroid nodules, adrenal incidentalomas, diabetes management, and obesity treatment. Interdisciplinary collaboration involves endocrinologists, primary care, radiology, and surgery.
- Endocrinologist Workforce Trends: The availability of endocrinologists in the Girona region remains low, ranging from 1.2 to 1.7 per 100,000 people.
- Hospital Admissions & Outcomes: The establishment of an Endocrinology and Diabetes Day Hospital in 2001 led to reduced hospital admissions.
- Standard readmission and mortality ratios remain low, indicating effective management.

Conclusion

The data suggest a significant increase in activity, with generally acceptable accessibility to endocrinology outpatient consultations at both referral and regional hospitals, aligning with the average performance of other health regions in Catalonia. However, there is still room for improvement. The UDENTG model demonstrates an effective, evolving approach to delivering high-quality endocrine care across Girona. Nevertheless, challenges persist, particularly regarding workforce sustainability, alignment of care objectives across healthcare levels, and the integration of new technologies and innovations. By reinforcing the principles of collaboration, continuous improvement, and patient-centered care, UDENTG aims to remain a reference model for excellence in regional endocrinology, adapting to future healthcare challenges.

Conflicts of interest related to this abstract: None

P-2079

Heart of Innovation: A Specialty Clinic Model for Reducing Readmissions and Improving Continuity of Care in Heart Failure

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Introduction

Heart failure (HF) remains a leading cause of hospital readmissions particularly in low-resource communities where healthcare access is fragmented. Despite advancements in guideline-directed medical therapy (GDMT), many patients experience recurrent hospitalizations due to inadequate follow-up, medication non-adherence, and socioeconomic barriers. To address these gaps, our institution developed a specialty HF clinic to improve continuity of care for HFREF patients. This res-

ident-driven initiative integrates a structured discharge process, scheduled follow-ups, and biweekly clinic visits to ensure optimal medication titration and patient education. The primary goal is to reduce 30-day readmission rates and improve cardiac function through tailored management.

Aim/Objective(s)

This project aimed to evaluate the impact of a dedicated heart failure clinic on clinical outcomes particularly in reducing 30-day readmission rates and improving left ventricular ejection fraction (LVEF) among patients with HFrEF. By implementing a structured outpatient care model, the initiative sought to enhance patient adherence and autonomy through targeted education. The study also aimed to identify key factors contributing to symptom stabilization and long-term disease management. Through this multidisciplinary approach, we hypothesized that patients enrolled in the clinic would experience significantly improved outcomes compared to those receiving standard care without structured follow-up.

Methods

We conducted a retrospective, single-center study on 192 HFrEF patients managed in the HF clinic between February 2022 and February 2024. A standardized discharge protocol was implemented, ensuring inpatient referrals to the clinic, bi-weekly follow-ups, and close medication titration. Patients underwent serial echocardiographic assessments at baseline and follow-ups every 3–4 months. The primary outcomes were 30-day readmission rates and changes in LVEF. Statistical analysis included independent t-tests for readmission comparisons and paired t-tests for EF changes. Data were analyzed to evaluate the clinic's impact on hospitalization reduction and cardiac function improvement.

Results

The implementation of the HF clinic resulted in a 70% reduction in 30-day readmissions, decreasing from 5.6 to 1.74 readmissions per month ($t = 40.64$, $p < 0.001$, SD 1.01). Pre-clinic readmission rates had a standard deviation of 1.14 compared to 0.449 post-clinic. Among 57 patients with serial EF assessments, 88% demonstrated a significant improvement in EF increasing from a baseline mean of 27.33% to 45.31% ($p < 0.001$, 95% CI -21.12 to -14.84). Only three patients experienced a decline in EF, while four showed no change. Patients enrolled in the clinic had higher GDMT adherence rates, fewer emergency visits, and improved symptom management compared to those without structured care.

Conclusion

Our specialty HF clinic successfully reduced hospital readmissions and improved cardiac function in a historically underserved population. By integrating structured inpatient-to-outpatient transitions, the clinic provided a replicable model for improving HF outcomes in low-resource settings. This initiative not only demonstrated clinical benefits but also underscored the potential for cost savings by decreasing inpatient admissions and preventing disease progression. Additionally, the resident-driven model fostered increased physician engagement in chronic HF management. The findings suggest that expanding specialty clinics in underserved areas could play a pivotal role in addressing health disparities and enhancing patient-centered care. Future research should

explore the long-term sustainability of this model including remote patient monitoring, telehealth integration, and broader community outreach programs. This innovative approach to HF care offers a scalable solution for improving outcomes and reducing healthcare costs worldwide.

Conflicts of interest related to this abstract: None

P-2080

Hospital-at-home as a Cost and Clinically Effective Strategy to Scale Bed Capacity in Singapore

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Introduction

Hospital-at-Home (HaH) has emerged as an alternative to traditional inpatient care to address bed capacity demands globally. While it is extensively studied and widely adopted in Western countries, its implementation in Asian healthcare systems with lower hospital bed availability and higher out-of-pocket payments remains underexplored. Singapore faces this challenge more significantly due to its aging population and increasing healthcare expenditure. The HaH model uses a multidisciplinary team to offer acute care in the comfort of patients' homes and is a promising solution to enhance the quality of care while reducing costs. HaH also has the potential to expand healthcare capacity without increasing infrastructure, which makes it suitable for land-scarce areas like Singapore. The HaH model in Western Singapore, NUHS@Home, provides evidence on the cost-effectiveness, resource utilisation, and clinical outcomes of HaH compared to ward-based care which informs policymakers on the program's scalability and sustainability.

Aim/Objective(s)

This study aims to evaluate the cost, resource utilisation, and clinical outcomes of HaH compared to traditional ward-based care in Singapore. The specific objectives are to

1. Quantify the cost differences between HaH and ward care on a per bed day and per episode basis.
2. Evaluate clinical outcomes such as length of stay (LOS), 30-day re-admission, 30-day emergency department (ED) re-attendance, mortality, and patient safety outcomes.
3. Evaluate patient-reported quality of life improvements and changes in satisfaction levels.

The results of the study aims to provide evidence for policymakers and healthcare leaders to guide scaling of HaH programs. By achieving these objectives, this study shows that HaH is a sustainable, clinically effective and patient-centric model of care that aligns with the cultural caregiving norms in Singapore and Asia.

Methods

A prospective quasi-experimental study was conducted between January 2021 and May 2023 in two hospitals within Singapore's National University Health System. HaH patients received care through a multidisciplinary team which provided daily physician reviews, nursing visits, allied health services, and 24/7 access to the clinical team. Patients in the comparator group were suitable for HaH however were not enrolled due to the program being full or living out of the catchment area. Data on cost, resource utilisation, clinical outcomes, and patient-reported measures were extracted from electronic health records and standardised surveys. Both groups were balanced using inverse propensity weighting. Outcomes measured included cost per bed day, cost per episode, length of stay (LOS), patient safety, quality of life (EQ-5D), and patient satisfaction

Results

HaH patients were older (mean [SD] age, 58.0 [20.9] years vs. 51.4 [21.2] years), had higher comorbidity, and higher average Charlson Comorbidity Index (2.9 [2.8] vs 2.3 [2.8]) prior weighting. The three most frequent diagnoses were cellulitis (43.0% HaH, 36.4% ward), urinary tract infection (17.9% HaH, 15.9% ward) and rhabdomyolysis (15.9% HaH, 23.8% ward).

The median cost per day in the HaH group was S\$499 (95% CI: S\$463, S\$548) lower than ward care; the median cost per episode in the HaH group was S\$1,713 (95% CI: S\$912, S\$2,396) lower than a ward care episode. Between HaH and ward groups, there was no significant difference in weighted 30-day readmission risk (RR 1.2 [95% CI 0.56–2.58]; p-value = 0.65), 2 weeks post-discharge mean improvement in EQ-5D utility value (0.03 [95% CI -0.06–0.11; p-value = 0.54]) and EQ-VAS (1.0 [95% CI -3.70–5.60]; p-value = 0.69). There were two expected deaths in the HaH group and none in the ward group. Weighted median length of stay (LOS) in HaH group and ward group were 5 and 4 days respectively (1.0 [95% CI 0.40–1.60]; p-value = 0.002); but overall saved 683 bed-days. Sensitivity analyses confirmed robustness of findings, demonstrating that HaH is a cost-effective and high-quality alternative to inpatient care.

Conclusion

This study adds to the growing global evidence that Hospital-at-Home (HaH) is a cost-effective and clinically viable approach to expanding bed capacity, addressing critical healthcare challenges in Singapore and similar health systems. The hybrid model of in-person and virtual physician reviews optimizes resource utilization while maintaining care standards, enabling HaH scalability even in resource-constrained settings. Beyond cost and clinical outcomes, HaH aligns with cultural caregiving norms in Asia, where family involvement and multi-generational cohabitation are common. By allowing patients to receive care at home while staying close to their loved ones, HaH enhances both patient and caregiver experiences. This study has contributed to a significant policy shift in Singapore, where HaH is now recognized as a mainstream model of care. Our work has informed national strategies on funding, workforce planning, and digital health integration, embedding HaH into long-term healthcare planning as a sustainable, cost-effective alternative to hospital expansion. Future research should explore long-term impacts, caregiver experiences, and strategies for integrating HaH into broader health financing systems to ensure scalability, sustainability, and equity.

Conflicts of interest related to this abstract: None

P-2081

Hospital-at-Home Reduces Length of Stay and Medical Expenditures: A Pilot Study in Taiwan

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Introduction

Hospital-at-Home (HaH) is an alternative model to traditional inpatient care that has demonstrated improved patient outcomes, reduced healthcare costs, and increased satisfaction globally. Despite its success in various healthcare systems, HaH had not been implemented in Taiwan until our pilot program at a tertiary medical center. This study evaluates the effectiveness of HaH by comparing its outcomes with traditional hospitalization.

Aim/Objective(s)

This study aims to assess the impact of HaH on length of stay, medical expenditure, emergency department (ED) visits, re-hospitalization rates, patient transitions to home healthcare (HHC), and overall satisfaction compared to standard inpatient care.

Methods

A retrospective cohort study was conducted, including 71 HaH patients diagnosed with pneumonia, urinary tract infection, or soft tissue infection between August 1, 2024, and January 31, 2025. A comparison cohort of hospitalized patients (n = 284)

was matched by age, sex, and diagnosis at a 1:4 ratio. After excluding re-hospitalized patients (n = 2) and those with incomplete data (n = 38), a total of 69 HaH patients and 246 comparison patients were analyzed. Clinical characteristics, healthcare utilization, and satisfaction metrics were compared using univariate and logistic regression analyses.

Results

The mean age (SD) and female percentage of the HaH and comparison cohorts were 79.9 (9.9) vs. 78.9 (12.7) years and 69.6% vs. 69.1%, respectively. The HaH cohort demonstrated a significantly shorter length of stay (adjusted odds ratio [OR]: 0.53, 95% confidence interval [CI]: 0.30–0.93, p = 0.028) and lower medical expenditure (adjusted OR: 0.18; 95% CI: 0.10–0.33, p <0.001) compared to the hospitalized cohort. HaH patients were more likely to transition to HHC after discharge (73.9% vs. 7.3%, p <0.001). Patient and caregiver satisfaction was 96.8%. No significant differences were observed between the HaH and comparison groups in ED visits within 3 days (adjusted OR: 1.26; 95% CI: 0.30–5.34, p = 0.752), ED visits within 14 days (adjusted OR: 1.03; 95% CI: 0.18–5.89, p = 0.974), re-hospitalization within 3 days (adjusted OR: 1.01; 95% CI: 0.43–2.38, p = 0.989), and rehospitalization within 14 days (adjusted OR: 1.31; 95% CI: 0.51–3.36, p = 0.578).

Conclusion

This pilot study demonstrates that HaH is a cost-effective alternative to hospitalization, leading to shorter hospital stays, lower medical expenditures, and high patient satisfaction without increasing ED visits or rehospitalization rates. These findings support the feasibility and benefits of HaH in Taiwan, suggesting the need for broader implementation and further research with larger sample sizes to refine and optimize its integration into the healthcare system.

Conflicts of interest related to this abstract: None

P-2082

Hospitalized Patients' Sleep Quality and Its Risk Factors: A Cross-sectional Study

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Introduction

Sleep is vital for recovery, cognitive function, and emotional stability. However, 47–67% of hospitalized patients experience poor sleep due to various disruptive factors, including environmental noise, medical interventions, physical discomfort, and psychological stress. In Taiwan, the prevalence of shared hospital rooms and the cultural norm of family members staying overnight further contribute to sleep disruptions. However, despite the recognized importance of sleep, the key factors leading to poor sleep among hospitalized patients remain unclear. Therefore, this study aims to investigate the prevalence of poor sleep and identify risk factors for poor sleep in hospitalized patients.

Aim/Objective(s)

This study aims to investigate the prevalence of poor sleep and identify risk factors for poor sleep in hospitalized patients.

Methods

A cross-sectional study was conducted from October 30, 2024 to February 20, 2025, at a tertiary medical center in Taiwan, focusing on three wards: General Surgery, Thoracic Internal

Medicine, and Neurosurgical ICU. The inclusion criteria were: 1) adult patients (≥ 18 years); 2) admitted for ≥ 24 hours; and 3) able to respond to Chinese commands. Patients with hearing and vision loss were excluded. A total of 41 hospitalized patients were enrolled through convenience sampling. Data were collected through face-to-face surveys. Sleep quality was assessed through the traditional Chinese version of the Richards-Campbell Sleep Questionnaire (RCSQ) with an established cut-off score below 63.4 indicating poor sleep. Risk factors of poor sleep were reported through a researcher-developed questionnaire. Data were analyzed using SPSS 29. Independent t test were used to compare baseline characteristics with RCSQ total scores. Logistic regression were used to examine the relationships between poor sleep and its risk factors.

Results

Despite 46% of patients using sleep medication, overall sleep quality remained poor. In fact, 75% of hospitalized patients had a RCSQ score below 63.4, indicating poor sleep. The most significant risk factor identified was environmental noise, with 56.1% of patients reporting it as their primary sleep disruptor ($p = 0.01$). This noise stems not only from medical equipment but also from shared hospital rooms, multi-bed wards, and family members staying overnight, which all contributed to elevated noise levels and increased sleep disturbances. Furthermore, treatment-related factors such as vital sign monitoring and medical interventions affect 58.5% of patients ($p = 0.14$), while psychological issues like anxiety affect 56.1% ($p = 0.37$). Physical discomfort, particularly due to pain, impacts 58.5% of patients ($p = 0.86$), especially those in the ICU, who often endure intubation-related discomfort.

Conclusion

Poor sleep quality is a widespread issue among hospitalized patients, negatively impacting recovery. Environmental noise was the most significant factor, primarily from medical equipment, shared hospital rooms, and family members staying overnight. While treatment-related factors, psychological stress, and physical discomfort also contributed, their statistical insignificance may be due to the limited sample size. Additionally, 46% of patients used sleep medications, yet their sleep quality remained poor, suggesting medication alone is insufficient to address sleep disturbances. The reliance on sleep medications may have inflated perceptions of sleep quality, potentially obscuring the extent of sleep issues. This highlights the urgent need for hospitals to tackle underlying causes of poor sleep in hospitals. To improve sleep quality, hospitals should adopt noise reduction strategies, such as earplugs and quiet hours. Routine sleep assessments using tools like RCSQ should be integrated into care to monitor and manage sleep disturbances. This study provides valuable insights for hospital administrators and clinical teams seeking to enhance patient recovery through evidence-based sleep improvement strategies. Prioritizing sleep disturbances is not just a matter of comfort; it's a crucial step towards transforming the overall hospitalization experience and promoting a faster, more effective recovery.

Conflicts of interest related to this abstract: None

P-2083

Huraymila General Hospital an elderly friendly hospital

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Introduction

As of 2010, 4.2% of Saudi Arabia's population was aged 60 and over, rising to 5.5% in 2020, with projections of 9% in 2030 and 18.4% by 2050. In response, the Saudi government has emphasized elderly care, launching initiatives to improve their quality

of life and services, particularly through the Ministry of Health. These initiatives focus on providing comprehensive preventive and therapeutic care, along with a mechanism to prioritize appointments and daily transactions for seniors, aiming to reduce challenges and enhance their independence in healthcare facilities.

Aim/Objective(s)

1. Comprehensive Health Care: Addressing medical, psychological, and social needs holistically.
2. Accessibility to Services: Ensuring easy access to preventive, diagnostic, and therapeutic healthcare.
3. Prioritization of Care: Implementing systems to prioritize geriatric patients, reducing wait times.
4. Effective Communication: Ensuring clear communication between healthcare providers and older patients regarding treatment plans.
5. Psychosocial Support: Offering emotional and social support to assist with aging challenges.
6. Coordination of Care: Facilitating coordinated efforts among healthcare providers for continuous care.

Methods

1. Designating a clinic and physician to ensure easy access to specialized preventive and curative services.
2. Providing a parking area close to the main entrance for older adults.
3. Installing specially designed restrooms with alarms, grab bars, and exterior-access locks.
4. Offering comfortable waiting chairs in the waiting area.
5. Providing wheelchairs, canes, and walkers for patient use.
6. Using age-friendly signs and clear directions throughout the facility.
7. Expediting patient transfers from the Emergency Department.
8. Training staff to support older adults with sensory impairments and cognitive challenges.
9. Prioritizing appointment scheduling for older adults, with a fast-track clinic option if necessary.
10. Ensuring staff are trained to manage geriatric programs effectively.

Results

1. Better Communication: Enhancing interactions between healthcare providers and elderly patients for clearer understanding of treatment options and care plans.
2. Continuous Support: Offering ongoing assistance to older adults, including follow-up visits, phone calls, and reminders.
3. Multidisciplinary Team: Forming a dedicated team comprising nurses, doctors, pharmacists, clinical nutritionists, physical therapists, social workers, and health educators to monitor and provide comprehensive care for older adults.
4. Certification: Obtaining an "Elderly Friendly Hospital" certification from the Ministry of Health to validate the facility's commitment to senior care.

Conclusion

In conclusion, prioritizing the health and well-being of elderly individuals through a comprehensive approach leads to significant improvements in care outcomes. By ensuring better communication, continuous support, and coordinated efforts from a multidisciplinary team, healthcare facilities can effectively address the unique needs of older adults. The commitment to creating age-friendly environments and obtaining certifications from relevant authorities not only enhances the quality of care but also fosters greater independence and satisfaction among seniors. Ultimately, these initiatives contribute to a more compassionate and efficient healthcare system that recognizes and values the contributions of older adults in society.

Conflicts of interest related to this abstract: none

P-2084

Impact of a comprehensive care program for pregnant women and implementation of technological tools for clinical management in this population.

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Javesalud, Colombia

Introduction

Within the framework of primary health care, Javesalud implements care programs for priority populations, which is why in 2018 it was pioneer in Colombia on implementing the maternal-perinatal route in the outpatient setting, obtaining clinical results of impact. This program is based on the management of individual clinical risk, articulated with interdisciplinary interventions and health maintenance activities with a biopsychosocial approach focused on the pregnant woman and her family. Since 2023, advancing digital transformation, two technological tools have been implemented. The first manages clinical risk by monitoring and following up on each of the prenatal control activities through an alert system that allows for timely interventions and positive health outcomes, and the second one facilitates and expedites patient access to health services, providing information and education in the face of warning signs.

Aim/Objective(s)

1. To present the successful results of the implementation of a comprehensive care program for pregnant patients and their families, as well as the impact of the incorporation of two technological tools for the clinical management of this population.
2. Describe the technological tools used to minimize access and communication barriers between pregnant women and health professionals.
3. Contribute to reducing maternal-perinatal morbidity and mortality indicators in the country, with a significant social impact.

Methods

The program was implemented in 2018 with an interdisciplinary team (medicine, nursing, nutrition, psychology, dentistry, physical therapy, vaccination and gynecology) trained in maternal-perinatal risk management. The program begins with a preconception consultation, prenatal monitoring (10 consultations for nulliparous women, 7 for multi-pregnant women) and postpartum care. Low-risk patients are assessed by nursing and general medicine, and high-risk patients also receive gynecological care. All patients participate in educational activities for maternity-paternity preparation. In 2022, rapid tests were implemented, in 2023 a technological tool was implemented that monitors the completion of route activities and generates alerts to the team about priority interventions, and in 2024 a chatbot was implemented to manage appointments, medical orders and validate warning signs, referring urgent cases to a manager for remote guidance and referral to emergency services or outpatient consultations. These innovations optimize resources, reduce costs and improve the efficiency of the health system.

Results

On average, 861 pregnant women are assessed per year (2024), 66% classified as high risk, with a timely start to prenatal care (before week 10) of 85.5%, adherence to prenatal care (5 or more check-ups) of 94%, with 600 births, meeting the institutional goal of 85% for both indicators. 68 psychoprophylactic course workshops were held, with 727 attendees in total.

The indicators for maternal mortality, HIV in pregnant women, and HIV and congenital syphilis remained at zero cases, this is related to the implementation of rapid tests (syphilis and HIV), which by 2024 were a total of 1,112. Additionally, 481 preconception assessments and 349 breastfeeding counseling sessions were carried out. The total number of patients with clinical management through the technological tool has been 2,083, with 95,454 clinical records uploaded, 19 parameterized alerts, which have issued 3,217 alerts of non-compliance to consultations or altered laboratories, facilitating timely interventions, and quality of follow-up. The chat has had 10,862 conversations with 925 pregnant women, 11% of them have presented warning signs allowing timely approaches, 77% of the conversations have facilitated access and continuity of care, 15% have provided information and 8% have favored risk management.

Conclusion

The implementation of outpatient care programs based on clinical risk management, through interdisciplinary teams, with the systematization of activities from preconception assessment to postpartum and under the articulation of technological tools, allows for the generation of intervention strategies that lead to better clinical results, reducing costs for the system, increasing efficiency and improving the quality of life of pregnant women and their families. Allowing in an innovative way to generate developments that improve access to health services, guaranteeing continuity in care and managing in a timely manner the clinical and paraclinical risks of the pregnant woman and her family.

Conflicts of interest related to this abstract: None

P-2085

Impact of a High-Performance Multidisciplinary Team-Based Model in Hospitalization Care in a High-Complexity Hospital

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Introduction

The Hospital Militar Central is the highest-complexity care center available to the Military Forces personnel nationwide, making it crucial to maintain available hospitalization beds to provide prompt services with the highest standards of quality. Additionally, we strive for financial sustainability to offer the best service in alignment with our value proposition: Excellence in Healthcare: Resolution capacity, on-time, and safe. We focus on delivering patient-centered care, offering high-quality services with top-tier human and technological capabilities to Military Forces personnel. To achieve these outcomes, an Adult Hospitalization Care Model was implemented, with management responsibility entrusted to Family Medicine Specialists, who joins the multidisciplinary team to provide comprehensive care for the patient and their family. This model has led to improvements in crucial indicators such as readmissions, bed turnover, prolonged stays, and patient safety.

Aim/Objective(s)

General objective: To demonstrate the impact on health indicators related to quality, efficiency, and effectiveness following the implementation of a care model in the adult hospitalization service, in order to improve the management of these indicators.

Specific objectives:

- To evaluate the quality, efficiency, and effectiveness indicators in hospital care before the implementation of the care model.
- To analyze the impact of the care model on health indicators such as readmissions, bed turnover, prolonged stays, and patient safety.
- To measure the impact on patient satisfaction regarding the user experience in the adult hospitalization service.
- To propose adjustments or improvements to the care model based on the results obtained from the health indicator evaluation.

Methods

The methodology developed is a descriptive, cross-sectional, analytical study. It compares health indicators before (2023) and after (2024–2025) the implementation of a care model in an adult inpatient service, in order to demonstrate changes in the quality, efficiency, and effectiveness of care. The target population is all adult patients treated in the inpatient service during the periods analyzed in the hospital. Data collection was based on reports from the hospitalization and billing departments, as well as satisfaction surveys conducted during patient hospitalization. Additionally, medical records of patients who were readmitted were used for the patient safety analysis. Data analysis was conducted using SPSS version 27. After the implementation, a satisfaction survey was conducted, which revealed a 97% satisfaction rate among patients who used our hospitalization service.

Results

With the implementation of this new model in the hospitalization service, a positive impact has been observed, showing efficiency and effectiveness in the process, particularly in the indicators of readmissions, bed turnover, prolonged stays, and patient safety. The bed turnover indicator improved by 3.7%, increasing from 3.22% in the second half of 2023 to 3.34% in the second half of 2024. The healthcare-associated infection indicator showed a significant decrease of 12.4%, reducing from 2.27% in the second half of 2023 to 1.99% in the second half of 2024. The readmission indicator showed a reduction of 71.4%, decreasing from 1.33% in the second half of 2023 to 0.38% in the second half of 2024.

Conclusion

The implementation of the hospitalization care model with high-performance multidisciplinary teams has led to improvements in quality, efficiency, and effectiveness indicators in hospital care. The care model has contributed to the satisfaction and perception of patients treated in the hospital service of our institution, reinforcing continuous improvement in hospital management and contributing to a more efficient, effective, and patient-centered approach.

Conflicts of interest related to this abstract: None

P-2086

Implementation of a care organizational model in a multispecialty surgical unit in Piedmont: from design to impact assessment

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Introduction

The organization of nursing care is essential to ensuring high-quality care and appropriate working conditions. In the multispecialty surgical ward of a healthcare facility in Piedmont, the previous specialty-based model assigned patients to nurses based on their surgical specialty (Orthopedics, General Surgery, Urology). However, this led to workload imbalances due to differences in patient turnover and care complexity. To address these inefficiencies, a sector-based model was implemented in March 2024, redistributing patients across nursing teams regardless of specialty. This reorganization promotes a more balanced workload, enhances care continuity and strengthens interdisciplinary collaboration, ultimately optimizing patient outcomes and staff efficiency.

Aim/Objective(s)

This study aims to evaluate the impact of implementing a sector-based model on nurses' work-related stress and key organizational indicators.

The specific objectives are:

To assess nurses' work-related stress before and after the implementation of the sector-based care model in a multispecialty surgical ward in a Piedmont hospital.

To analyze the model's impact by examining key organizational indicators, including:

- Reported adverse events, sentinel events, errors and near misses;
- Overtime hours worked by nurses;
- Transfer requests submitted by nurses;
- Nurse absenteeism rates;
- Reports to the Public Relations Office (PR Office).

Methods

This study employed a pre-post organizational change design. Indicators were analyzed for all nurses working in 2023 and April–September 2024, while work-related stress was assessed among those on duty in December 2023 and November 2024. Nine of 38 eligible nurses were excluded due to research involvement or maternity leave. Stress levels were measured using a structured questionnaire, including socio-demographic data, job characteristics, BIAS-20, and the Maslach Burnout Inventory. Organizational indicators (overtime, absenteeism, transfer requests and adverse event reports) were collected via the hospital's attendance tracking and human resource management system. Data were analyzed using descriptive statistics and a four-level traffic-light index classified risk and impact. Ethical considerations ensured anonymity and compliance with General Data Protection Regulation (GDPR).

Results

Following the implementation of the sector-based model, work-related stress impact significantly decreased. In the pre-implementation survey, all 34 nurses participated (100% response

rate). The overall risk exposure index was yellow, indicating medium-low stress (average score: 27.8; cut-off: 15–28). However, perceived stress impact was higher, rated orange (average score: 40.4; cut-off: 27–76). In the post-implementation survey, all 29 invited nurses completed the questionnaire. The overall risk exposure index remained yellow, but the average score decreased to 21.3. Notably, perceived stress impact improved to yellow, with an average score of 16.6 (cut-off: 22–26), indicating lower perceived stress. Organizational indicators also reflected improvements. Only one report to Risk Management was filed post-intervention, involving shared responsibility between medical and nursing staff. Overtime hours decreased overall and transfer requests declined from 6 to 4, although absenteeism slightly increased from 140 to 149 days. No PR Office reports related to nursing staff were recorded.

Conclusion

The new sector-based care model has positively impacted both organizational structure and stress perception. However, some limitations in the indicators and sample may affect the reliability of the results. The sample changed partially due to turnover and some indicators served as proxies, potentially influencing data consistency and accuracy. Further investigation is needed to fully understand the organizational and stress-related implications of the model's implementation. Additionally, a longer adaptation period is required for the model to be fully internalized and its effects should be continuously monitored. Future research should prioritize subjective indicators, such as staff satisfaction, assessed in a more stable sample. Investigating the causes of turnover will also be crucial for improving long-term sustainability.

Conflicts of interest related to this abstract: Author Testino M. reported working directly in the department involved in this study, while authors Ghiglia S., Gonella E., Peirano C., Caka F. are affiliated with Azienda Sanitaria Locale CN1. Additionally, author Basso A.M. is the Director of the Health Professions Directorate at Azienda Sanitaria Locale CN1. These professional relationships may present a potential conflict of interest and we are disclosing it for transparency in accordance with ethical standards. Author Conti A. did not report any conflict of interest.

P-2087

Implementing a Nutrition Champions Program to Combat Hospital-Acquired Malnutrition: A Proven Approach to Enhance Patient Outcomes, Foster Multidisciplinary Nutrition Responsibility

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Background

Hospital-acquired malnutrition is a pressing issue that negatively impacts patient health outcomes, prolongs hospital stays, and escalates healthcare costs. This project details the successful implementation of a Nutrition Champions Program at The Royal Hospital designed to enhance awareness of malnutrition while establishing effective screening protocols and fostering a culture of nutrition is a shared responsibility among all healthcare professionals.

Objective

To evaluate the impact of the Nutrition Champions Program on malnutrition screening rates, clinical outcomes, healthcare professional awareness, and sustainability efforts, including reduced readmission rates and associated carbon footprint.

Methods

A multidisciplinary team was trained as Nutrition Champions to utilize a standardized malnutrition screening tool (e.g., Malnutrition Universal Screening Tool – MUST) upon patient admission and before major procedures. We conducted several roundtable discussions and focus group meetings with employees at all levels – management to operational – to raise awareness about the economic impact of malnutrition and articulate low-cost strategies to mitigate these effects. Measures of sustainability were integrated into our evaluation framework, focusing on the correlation between reduced readmissions and decreased carbon footprint. Nutrition Champions are also actively engaged in nutritional improvement projects within their wards and departments.

Results

Following program implementation, screening rates increased by 47% identifying 30% more patients at risk for malnutrition. Clinical outcomes improved significantly, with a reduction in average length of stay by 3 days and a 26% decrease in readmission rates among screened patients, contributing to a lower carbon footprint. Cost analyses revealed total savings due to decreased complications associated with malnutrition is still in progress of data collection. However an average of saving of 300OMR per patient in the pediatric post cardiology unit was identified. Awareness among healthcare professionals markedly improved, as evidenced by feedback from roundtable discussions. Furthermore, the initiative has initiated ongoing nutritional improvement projects led by trained ambassadors throughout various departments.

Conclusion

The Nutrition Champions Program effectively raised awareness of hospital-acquired malnutrition, improved early screening practices, and fostered a culture of shared responsibility for nutrition among all healthcare professionals. This initiative not only enhances patient outcomes and reduces healthcare costs but also contributes to sustainability efforts through lower readmission rates. The program exemplifies a scalable model for healthcare organizations aiming to proactively address malnutrition while simultaneously promoting a culture of change in nutritional practices

Conflicts of interest related to this abstract: none

P-2088

Implementing Entrustable Professional Activities (EPAs) in Operating Room Nursing Education for Improved Patient and Workforce Safety

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Introduction

Patient safety in the operating room (OR) depends on the competence and preparedness of nursing staff. To standardize clinical education and enhance professional reliability, an Entrustable Professional Activities (EPA) training program was implemented for OR nursing preceptors. EPAs provide a structured framework to define essential competencies, ensuring preceptors are well-equipped for patient safety and workforce development. A standardized EPA program can enhance teaching consistency, reinforce patient safety awareness, and support professional growth, yet its application in the OR remains underexplored.

Aim/Objective(s)

1. Assessing the impact of EPA training on OR nursing preceptors' core competency knowledge.

2. Evaluating improvements in teaching consistency and alignment among learning, teaching, and assessment.
3. Measuring the program's contributions to fostering a culture of patient safety and professional growth.

Methods

In 2024, a structured EPA education program was conducted through five training sessions, engaging 323 OR nursing preceptors. The program included lectures covering EPA core competencies. Training effectiveness was evaluated using pre- and post-training assessments of EPA knowledge gain, alignment among teaching, learning, and assessment, reinforcement of patient safety and professional growth culture, and participant satisfaction surveys.

Results

The average pre-training test score was 55.34%, which significantly improved to 81.08% post-training, demonstrating a substantial increase in EPA core knowledge. Participants highly rated the program's contributions to patient safety (5.0/5), communication skills (4.8/5), professional skill development (4.9/5), and providing higher-quality patient care (4.9/5). Teaching alignment assessments demonstrated strong alignment across learning-teaching (4.9/5), teaching-assessment (4.9/5), and assessment-learning (5.0/5) dimensions. Overall course satisfaction was 93.23%.

Conclusion

The EPA-based OR nursing education program improved teaching alignment among nursing preceptors, strengthened their ability to deliver standardized training, and enhanced their clinical competency. These findings underscore the value of structured EPA training in advancing both patient and workforce safety in surgical settings, supporting its broader implementation in perioperative nursing education.

Conflicts of interest related to this abstract: None

P-2089

Improve geriatric care by providing home healthcare facilities to decrease long Hospice care patient with chronic illness

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Introduction

Geriatric care refers to a comprehensive system of healthcare for older patients that focuses on managing chronic illnesses, promoting function, and optimizing quality of life in the later years. It involves assessing the impact of multiple complex illnesses on the patient's life and addressing issues related to aging, mortality, and end-of-life care. This project is improve geriatric care by providing home care facilities would focus on enhancing the quality of life for elderly individuals by offering accessible and personalized services at home with Skillful healthcare practitioners. The Home care service also cover nursing care, physical and professional treatment, contact language and social medical services. The environment of home healthcare differs from that of hospitals and other facilities. Therefore, the multidisciplinary objectives and nature of home healthcare services pose a challenge to the quality level, which differs from that available at traditional hospitals.

Aim/Objective(s)

Home healthcare service aimed at helping individuals to improve their life functions and live more independently, in addition to enhancing the level of patients' well-being and to help

them stay at home instead of hospitalization at healthcare facilities for long periods. Patient will receive comprehensive, patient-centered home healthcare services that promote independence, dignity, and quality of life for geriatric patients. On the other hand it will decrease the long stay patient in the hospital that will decrease the expenditure of healthcare and saving the cost of services. Improve the patient experience survey report by press ganey as well.

Methods

Using conventional methodology of FOCUS PDCA, the team focused on identifying key challenges for providing Home Health care facility for patients who need long hospice care. Utilization of technology as virtual appointment, telemedicine and video chat by healthcare team. Demography and Sample size; included all the patient registered in home healthcare clinic through virtual appointment, male and female of all age group who needs prolong healthcare at their home. But the main target age group is geriatric patients. Diagnosis related information are included mostly chronic illness including Diabetes, Hypertension, stroke and heart disease etc. Staff training and education provided related home healthcare patient's need assessment and risk stratification according to the diagnosis and functional disabilities. Patient registering through virtual appointment and healthcare providers are visiting according to the schedule or using tele-medicine and sending medication through Saudi post (SPL).

Results

Initially the number of registered patients were low but it reached up to 143 plus patients in the month December 2024. Long term Hospice care reduced significantly from 48 patients during the year 2023 to 131 at end of the year 2024, that effect on reducing healthcare cost up to 1 million Riyal Saudi, after Home healthcare facility available in Aflaj General Hospital for local Community. Improve patient satisfaction by utilization of technology like, virtual appointment, telemedicine and audio video chatting with physician with patient and supplying the medicine at door step of patient via Saudi Postal service (SPL).

Conclusion

This project does not only decrease the burden on hospitals and long-term care facilities but also enhance the overall well-being of elderly individuals by allowing them to age in place with comfort and dignity. It includes, but not limited to:

- Improved physical, emotional, and mental health for elderly individuals.
- Reduced hospitalizations and better management of chronic conditions.
- Reduced Healthcare Cost about millions of riyals by decreasing hospice care of long stay patients
- Increased independence and dignity for seniors through tailored home care services.
- Stronger support networks involving healthcare professionals, families, and communities.

Conflicts of interest related to this abstract: None

P-2090**Improving clinical documentation completion among physicians**

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Introduction

Clinical Documentation Improvement (CDI) project is intended to enhance the completeness, accuracy, and consistency of the hospital's clinical documentation. Having noted the declining rate of clinical documentation completion in the first six months of 2024, the Electronic Health (E-health) director, along with CDI specialists conducted this project. They seek to reach 90% clinical documentation compliance by the end of the year. Significant stakeholders involved in this project are in unison in advocating that improvement in clinical documentation is vital in the provision of safe and effective patient care as it enhances communication between medical providers, which leads to reduced risks of medical errors and improve patient outcomes.

Aim/Objective(s)

This project aims to identify the gaps in documentation practices through audits and stakeholders' feedbacks, leading to the formulation of targeted strategies in order to achieve a target of 90% in 2024. Further, to provide actionable suggestions and best practices that can be replicated across various healthcare organizations, leading to enhanced quality of care and operational effectiveness.

Methods

The CDI rate collected from January to June 2024 was used as data. The team utilized the FOCUS-PDCA methodology to carry on the project. Members of team consists of medical administration, E-health, CDI and medical records staff and quality department. The key aspects of the project included the use of novel technologies such as Electronic Health Record (EHR), which allows more precise and accurate data entry with the implementation of continuous monitoring of medical records between admission and discharge. In addition, the project emphasizes ongoing education and training of healthcare providers with the expertise to improve documentation procedures. The clinical documentation policy was communicated to all medical staff, supplemented by workshops that described the roles and duties in maintaining documentation standards. Finally, a reporting system was established for reporting incomplete files, fostering teamwork, accountability and responsibility.

Results

Significant improvement result has been recorded throughout the duration of the project implementation. From the first month of the action plans application, the completion rate has gradually improved, from 81% during the start of the project, it continuously increased, reaching to 94% in October and November. It has met its initial goal of 90%. The consistent growth alongside enhanced completion rates demonstrated effective strategies implemented throughout the second half of the year. The improvement also revealed the commitment that the staff has shown in order to achieve the project's goal.

Conclusion

This CDI initiative highlights the importance organized governance and planning in achieving documentation excellence. Keeping pace with the momentum created through continuous learning and feedback will be crucial for upholding top-tier clinical documentation standards, ultimately enhancing patient care and operational efficiency. Recommendations should be implemented in other healthcare facilities to develop a sustainable model for documentation improvement. The long-term

goal is to create a system that adapts to the evolving healthcare needs of these facilities.

Conflicts of interest related to this abstract: None

P-2091**Improving Leadership and Performance Evaluation in Nurse Supervisory Roles of MMMH&MC Nursing Division**

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Introduction

Effective leadership in nursing supervision is critical for ensuring the delivery of high-quality care, staff engagement, and professional development. In 2023, MMMH&MC conducted performance evaluations across its nursing supervisory levels to assess leadership effectiveness and identify areas for improvement. These evaluations provided a snapshot of nurse supervisors' accomplishments while addressing challenges in leadership, resource allocation, and workplace dynamics. Staff nurses used detailed criteria to evaluate supervisors, focusing on attributes such as leadership qualities, effective communication, conflict resolution, time management, fairness in staff allocation, and responsiveness to concerns. Key metrics derived from these criteria offered a robust basis for targeted developmental programs. By identifying specific strengths and actionable areas for improvement, this project supports both institutional growth and enhanced patient care outcomes.

Aim/Objective(s)

The project aimed to:

1. Assess the performance of nurse supervisors in terms of leadership, communication, and management skills to establish a baseline for their effectiveness and contributions. These assessments will ensure that their capabilities align with institutional goals and patient care standards.
2. Identify specific strengths such as adaptability, team collaboration, and problem-solving, while addressing areas for improvement including time management, conflict resolution, and proactive decision-making. This comprehensive approach aims to elevate professional competencies across all supervisory levels.
3. Develop actionable recommendations for leadership training, emphasizing advanced managerial techniques and communication strategies. Additionally, provide guidance on resource allocation and mentorship programs to empower nurse supervisors. These measures aim to enhance patient outcomes, foster a supportive work environment, and improve workplace satisfaction. By addressing these objectives, the project seeks to establish a model framework for continuous professional growth and operational excellence within healthcare institutions.

Methods

Performance evaluations were conducted for Nurse III, IV, and V levels during the first and second semesters of 2023. Evaluations utilized standardized descriptive metrics ranging from "Excellent" (4.21-5.00) to "Poor" (1.00-1.80). Key methods included structured feedback forms, peer and subordinate evaluations, and quantitative mean scoring. Data were collated and analyzed to identify trends and themes, supported by qualitative feedback from participants. Below is a comparison of the results between the two semesters:

Evaluation Metrics	1st Semester (2023)	2nd Semester (2023)
Mean Score (Nurse III)	4.55	4.65
Mean Score (Nurse IV)	4.35	4.45
Mean Score (Nurse V)	4.75	4.85
Strength Areas Highlighted	Communication, Professionalism	Communication, Professionalism
Developmental Areas	Time Management, Conflict Resolution	Time Management, Conflict Resolution

Results

The evaluation results highlight remarkable progress in nursing leadership and staffing, bringing optimism for continued excellence. Nurse supervisors achieved impressive mean scores between 4.21 and 4.99, predominantly rated "Excellent," showcasing strong leadership and cohesive teamwork. The second semester demonstrated encouraging improvements across all levels, reflecting the positive impact of the implemented recommendations. Strengths such as outstanding communication skills, approachability, and professionalism remained consistent, reinforcing a positive work culture. Opportunities for growth in time management, conflict resolution, and equitable staff allocation present exciting areas for further development, fostering continuous improvement. Proactive recommendations focus on advancing leadership training and further increasing manpower, particularly in high-stress units like the ICU and ER, to maintain balanced workloads and elevate patient outcomes. As response of the division, the Manpower in the ICU and ER was significantly strengthened, achieving a near-ideal nurse-to-patient ratio, greatly enhancing patient safety and care quality. Overall, the results radiate positivity, underscoring the success of dedicated leadership and strategic initiatives in creating a safer, more efficient, and compassionate healthcare environment.

Conclusion

This project highlights the transformative impact of structured performance evaluations in enhancing nursing leadership. The positive progress seen between the first and second semesters reflects the dedication of nurse supervisors to continuous improvement. With focused training and targeted support, even greater advancements can be achieved. This journey towards excellence fosters a culture of growth, collaboration, and resilience within the nursing team. By nurturing nursing leadership potential and addressing developmental areas, MMMHMC is paving the way for a more empowered nursing workforce, ultimately leading to improved patient outcomes and a more supportive healthcare environment. The future holds great promise as these efforts continue to flourish.

Conflicts of interest related to this abstract: None

P-2092

Improving Patient Safety by Standardizing Intra-Hospital Transfers in the Emergency Nursing Team

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Introduction

Managing thousands of intra-hospital transfers annually, the emergency nursing team frequently handles critically ill patients requiring extracorporeal membrane oxygenation (ECMO), mechanical ventilation, and high-dose vasopressors.

Despite the critical need for safe and seamless intra-hospital transfers, multiple factors contribute to increased patient safety risks, including inconsistent medical staff accompaniment, communication breakdowns, and the absence of standardized assessment protocols. To mitigate these risks, our team implemented a comprehensive improvement project focusing on:

- Standardizing pre-transfer patient assessments
- Establishing clear medical staff accompaniment criteria
- Enhancing handover documentation and communication protocols

This study evaluates the effectiveness of these interventions in reducing patient safety incidents and optimizing intra-hospital transfer procedures.

Aim/Objective(s)

This study aimed to improve the intra-hospital transfer process within the emergency nursing team to:

- Enhance patient safety by minimizing adverse events during transfers.
- Establish standardized medical staff accompaniment criteria to ensure appropriate support for critically ill patients.
- Strengthen interdisciplinary communication to improve coordination between transferring and receiving teams.
- Develop a structured handover system to prevent information loss and ensure continuity of care.

To achieve these objectives, we implemented:

- A pre- and post-transfer patient assessment protocol
- Medical staff accompaniment guidelines based on patient acuity
- An enhanced structured handover record system

By integrating these interventions, we aimed to reduce intra-hospital transfer-related safety incidents and increase medical staff adherence to standardized protocols.

Methods

This study utilized the Plan-Do-Check-Act (PDCA) cycle for continuous improvement. Data collection included:

- Comparison of patient safety incidents before (2023) and after (2024) intervention
- Analysis of handover record completion and appropriateness rates
- A 4-point Likert scale survey on medical staff awareness and compliance

The project was implemented over five months (May–September 2024) with the following key interventions:

- Educational campaigns via posters and newsletters to improve awareness.
- Standardization of communication tools, including an enhanced handover template.
- Implementation of a structured pre-transfer assessment protocol to guide medical staff accompaniment decisions.
- Designation of dedicated transfer nurses for high-risk patients.

Data analysis included comparative statistics such as paired t-tests for pre- and post-intervention comparisons to measure improvements in patient safety, documentation accuracy, and staff compliance.

Results

Following the implementation of this project, no patient safety incidents related to intra-hospital transfers were reported.

Handover Documentation Improvements:

- Completion rates remained at 100%, with appropriateness improving from 74% to 88% in the ED and from 47% to 81% in general wards and ICUs.

- For interdepartmental transfers to diagnostic laboratories, completion rates improved from 82% to 88%, while appropriateness increased from 37% to 100% in the ED and from 54% to 88% in general wards and ICUs.

Medical Staff Awareness and Compliance:

- Awareness scores improved from 3.57 to 3.67.
- Recognition of the importance of structured transfers increased from 3.38 to 3.49.
- Compliance with safe transfer procedures improved from 3.42 to 3.54.

Designation of Dedicated Transfer Nurses: Experienced nurses were assigned as transfer nurses from February 2024 to monitor and facilitate safe transfers of high-risk patients.

[Medical Staff Accompaniment Criteria for Intra-Hospital Transfers]

A structured pre-transfer assessment protocol was established, categorizing patients based on Airway, Breathing, Circulation, and Neurology (ABCN). In case there was a possibility of deterioration during movement, a medical professional accompanied the patient. These results demonstrate the effectiveness of a structured transfer process in eliminating safety incidents and enhancing communication and accountability among medical staff.

Conclusion

This project successfully enhanced intra-hospital transfer safety by reducing patient safety incidents, improving documentation, and increasing staff compliance with structured transfer protocols.

Key Outcomes:

- Elimination of intra-hospital transfer-related safety incidents.
- Significant improvements in handover documentation accuracy.
- Increased staff adherence to transfer safety protocols.

Long-Term Sustainability Strategies:

- Ongoing professional education to reinforce compliance.
- Continuous monitoring and feedback systems to identify areas for improvement.
- Interdepartmental collaboration to ensure hospital-wide adherence to structured transfer protocols.

Future studies should explore long-term patient outcomes associated with standardized intra-hospital transfers and adapt this protocol to other high-risk hospital settings. By integrating evidence-based assessment tools, standardized accompaniment criteria, and improved communication channels, this initiative provides a sustainable model for enhancing intra-hospital transfer safety across emergency nursing units. In the future, we plan to develop a computer program to be used by the dedicated transfer nurse when moving within the hospital, and to develop a computer program for the examination room and handover so that it can be used in all departments within the hospital.

Conflicts of interest related to this abstract: None

P-2093

Improving Patient Safety: The Impact of the Great Catch Program at St. James Hospital

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Introduction

Since 1993, St. James Hospital has prioritized patient safety with the tagline "Patient First." To further enhance this commitment, the hospital implemented the "Great Catch" program, an initiative by the Continuous Quality Improvement Committee (CQI) designed to encourage staff to report near-misses and potential hazards. The program includes an award system, user-friendly reporting options (online/in-person), evaluation by CQI, verification, recognition for reporters, and training sessions. This study aimed to evaluate the impact of the Great Catch program on the reduction of near-miss incidents and the fostering and improving patient safety culture.

Aim/Objective(s)

1. Reducing near-miss incidents in St. James Hospital.
2. Fostering and improving patient safety culture through proactive reporting, hazard recognition, and staff engagement.

Methods

This evaluation focused on the Great Catch program's implementation and impact. The CQI committee reviewed reported near-misses, conducted hazard analysis, and implemented safety improvements based on their guidelines. Staff were recognized for their reports, and training was provided to enhance reporting accuracy. Continuous monitoring was used to assess the program's sustained effectiveness.

Results

In 2022, there were 21 recorded near-miss incidents. After the introduction of the Great Catch program, this number decreased to 13 in 2023 and further declined to 12 in 2024. Specifically, in the "Non-Conformity, Man" category (related to human error and procedural deviations), there were 16 incidents in 2022, which saw a reduction of 43.75%, dropping to 9 in 2023. By 2024, there were 4 recorded, and the reduction reached 55.56%. Overall, the implementation of the Great Catch program resulted in a significant and sustained reduction in reported near-miss incidents over the three-year period. The Great Catch awards, which reinforced a culture of preventative practices and hazard recognition, and were seen as a positive reinforcement by the staff.

Conclusion

The Great Catch program demonstrated a clear positive impact, as evidenced by the consistent reduction in nonconformity incidents from 2023 to 2024, indicating improved quality and reduced errors. The decrease in nonconformity incidents suggests that the Great Catch program is effective in fostering a safety culture. Further analysis of the collected data can lead to additional reductions in incident rates and enhance patient safety. Further efforts will focus on further analyzing incident data to identify targeted interventions and enhance the program's effectiveness. Maintaining a near-miss reporting system and continuing to recognize rewards will further enhance patient safety.

Conflicts of interest related to this abstract: none

P-2094**Improving patient's treatment, the Wound Care Program of a major University Hospital in Western Switzerland**

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Introduction

HUG's Wound Care Program (WPC) team is part of the Care Directorate and comprises a physician, a full nursing professor specializing in tissue viability and wound care, two specialized nurses (SN), two clinical nurse specialists (CNS), and a nurse completing a one-year internship. The teams' members serve as consultants and act as the hospital's clinical authority on wound care, ensuring the implementation of optimal care standards. Additionally, they contribute to enhance staff members knowledge and skills in wound management. The HUG's WPC team is actively involved in direct patient care, specialist consultations, coaching, and evidence-based wound care training. Its members are engaged at the institutional level, leading initiatives across all HUG departments, such as pressure ulcer prevention. Finally, the HUG's WPC aims to foster more transversal links between healthcare professionals for the benefit of patients.

Aim/Objective(s)

The aim of this presentation is to outline the objectives of HUG's Wound Care Program, along with each members specific roles and distinctive operational methods. The program is designed to enhance the quality and safety of wound prevention and care at HUG, focusing on four key objectives:

1. Reducing pressure ulcers within the institution.
2. Enhancing the expertise and skills of healthcare professionals in wound care.
3. Developing disseminating, and implementing evidence-based recommendations, protocols, and clinical techniques.
4. Strengthening partnerships for postgraduate training in wound care and advanced practice.

Methods

Strong's research-based framework, which encompasses the practice areas of basic, specialist, and advanced nursing, was used to operationalize the program

Direct and comprehensive care:

- Person-centered activities, including assessment, analysis, counseling, and education for both patients and healthcare workers.

Systems support:

- Contributing to the development of standards, quality care policies, and best practice guidelines to optimize practice.

Training:

- Identifying educational needs and actively participating in wound care training.

Research:

- Critically evaluating current practices and engaging in research to expand knowledge on health and illness related to wound care.
- Enhancing care quality through the implementation of evidence-based practices.

Publication and leadership:

- Sharing expertise through knowledge dissemination and leading initiatives to promote best practices.

Results

In 2024, HUG's Wound Care Program (WCP) conducted 2,511 consultations across 11 hospitals and provided over 1,920 hours of coaching to care teams. The primary focus of these consultations and coaching sessions was the management of complex post-operative wounds, category 3 and 4 pressure ulcers, traumatic wounds, and dermatitis. A significant proportion of these interventions was dedicated to staff training on best practices and updating existing protocols. Additionally, the program enhanced patient follow-up from acute care to rehabilitation and ambulatory care, ensuring continuity of care. The program reviewed and updated five care procedures, provided various training courses for nurses and medical staff and established a dedicated "Training Error Room" aimed at preventing pressure ulcers, benefiting over 200 participants. At the academic level, two master's theses were overseen: one examining barriers and facilitators, and the other evaluating nurses' knowledge and attitudes concerning pressure ulcer prevention. The team members presented numerous communications at national and international congresses.

Conclusion

HUG's Wound Care Program stands out for its unique structure and approach. It promotes the development of a multidisciplinary network dedicated to wound management and prevention, encouraging active engagement in research and the dissemination of evidence-based knowledge. The program takes a proactive role in education and team mentoring, offering customized training opportunities tailored to the diverse needs of all stakeholders. Each year, training courses are designed for various levels of care, ensuring accessibility for all healthcare professionals, from ancillary personnel to medical teams.

Conflicts of interest related to this abstract: None

P-2095**Improving Physician Adherence to Bronchiolitis Guidelines: A Data-Driven Approach Using Individualized Feedback**

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Introduction

Bronchiolitis is a leading cause of hospitalization in infants, and adherence to evidence-based guidelines is essential for ensuring optimal patient outcomes and resource utilization. Despite various interventions such as physician training, knowledge assessments, and alert systems for reviewing indications, adherence to institutional protocols remained suboptimal. Non-adherence to protocols frequently manifests through the application of non-recommended investigations and treatments, including unnecessary bronchodilator prescriptions, overuse of radiographic imaging, corticosteroid administration without indication, and inappropriate antibiotic use. This study aimed to enhance compliance with bronchiolitis management guidelines at Medpark International Hospital by implementing individualized feedback based on comparative performance analysis, following international recommendations.

Aim/Objective(s)

The primary objective of this study was to achieve compliance with institutional protocols by eliminating non-recommended practices in bronchiolitis management. To reach the desired level of compliance, we implemented individualized feedback

that included both personal performance results and benchmarking against peers. Previous interventions, such as educational campaigns, direct questioning of physicians regarding protocol knowledge, and automated alerts for reviewing indications, had limited impact, with over 50% of cases still involving at least two non-recommended interventions. This study aimed to demonstrate that individualized feedback and benchmarking could drive measurable improvements in adherence to evidence-based guidelines.

Methods

This prospective interventional study was conducted at Medpark International Hospital from 2023 to 2024, involving pediatricians from the emergency department and inpatient unit. Initial adherence to the bronchiolitis protocol was assessed at the beginning of 2023, followed by a six-month re-evaluation, which showed no significant improvement. An intervention was then introduced, consisting of individualized comparative feedback reports that highlighted each physician's prescribing patterns relative to their peers and guideline recommendations. The feedback reports were structured using Pareto analysis to identify the critical few providers responsible for the majority of non-compliance, ensuring targeted interventions. The feedback was presented in a non-punitive manner to encourage behavioral change. A final evaluation was performed six months post-intervention to assess changes in compliance. Data were collected from electronic medical records and analyzed using descriptive statistics.

Results

Following the implementation of individualized feedback, significant improvements in adherence to bronchiolitis management guidelines were observed. The inappropriate use of bronchodilators decreased from 65% to 30% ($p < 0.05$), while the frequency of unnecessary radiographic imaging declined from 40% to 15% ($p < 0.05$). The use of corticosteroids without indication was reduced from 50% to 20% ($p < 0.05$). Additionally, antibiotic overuse declined from 25% to 5% ($p < 0.05$). The feedback intervention proved particularly effective for high-utilizing providers, with those in the highest quartile of non-adherent practices showing the greatest reductions. Provider engagement improved through structured communication strategies, including masked comparative performance reporting and targeted discussions on best practices. The study also highlighted the importance of continuous monitoring and iterative refinements to sustain improvements.

Conclusion

This study confirms that individualized feedback based on comparative performance analysis is an effective strategy for improving compliance with institutional protocols for bronchiolitis treatment. Unlike previous educational interventions that had minimal impact, comparative feedback provided personalized insights that led to meaningful practice changes. The integration of Pareto analysis helped identify the critical few providers responsible for the majority of non-compliance, ensuring that interventions were efficiently targeted. This structured approach fostered greater provider accountability while maintaining a supportive, non-punitive environment. Implementing similar strategies for other conditions requiring standardized management could further enhance patient care and resource efficiency within healthcare institutions. Future initiatives should explore automated feedback systems and longitudinal tracking to ensure the sustainability of improvements in adherence.

Conflicts of interest related to this abstract: None

P-2096

Improving referral and clinical feedback processes between Huraymala General Hospital and the associated Primary Health Care Centers

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huraymala general hospital, Saudi Arabia

Introduction

Improving referral and clinical feedback processes between Huraymala General Hospital and the associated Primary Health Care Centers is essential for enhancing patient care coordination and quality of healthcare services.

Aim/Objective(s)

1. Standardized Referral Guidelines: Develop standardized guidelines for referrals from Primary Health Care Centers to Huraymala General Hospital.
2. Clear Communication Channels: Establish clear communication channels between the Primary Health Care Centers and Huraymala General Hospital.
3. Timely Feedback Mechanisms: Implement a system for providing timely clinical feedback from Huraymala General Hospital to the referring Primary Health Care Centers.
4. Training and Education: Provide training and education for healthcare providers at both the Primary Health Care Centers and the hospital on the importance of effective referral and feedback processes.
5. Quality Assurance and Monitoring: Establish mechanisms for monitoring and evaluating the referral and feedback processes to identify any areas for improvement.

Methods

By using a digital platform in which the primary health care centers write the information about the referred patients and their medical history, and the doctors at the hospital should review the file in the platform and write a feedback report after examining the patients

Results

- The average monthly referrals reduced from 371 to 93 which reduce the pressure on the outpatients clinics due to the unnecessary referrals.
- The unnecessary lab work reduced from 132 to 6 per month.
- The number of completed clinical feedback instances increased from only 12 per month to 89 per month, which led to a clear plan of care and better clinical outcomes.

Conclusion

1. Clear and timely communication can lead to better coordination of patient care and treatment plans.
2. Ensuring that relevant medical information is shared between healthcare providers can result in better diagnosis and treatment, ultimately improving patient outcomes.
3. Streamlining the referral process and feedback loop can reduce delays in care delivery, leading to faster treatment for patients.
4. Facilitating the exchange of information ensures that all healthcare providers involved in a patient's care have access to the necessary data, promoting continuity and consistency in treatment.

Conflicts of interest related to this abstract: None

P-2097**Improving the accuracy of lower limb swelling assessment in patients after knee replacement surgery**

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Introduction

According to the 2020 National Health Insurance Medical Statistics from Taiwan's Ministry of Health and Welfare, approximately 42,000 individuals underwent joint replacement surgery in Taiwan that year. Artificial knee replacement is a highly effective treatment for degenerative knee arthritis. However, common postoperative complications include lower limb venous thrombosis, prosthesis infection, persistent pain, and neurovascular damage. Post-surgical leg swelling can disrupt venous blood flow, increasing the risk of deep vein thrombosis (DVT), with an occurrence rate of 0.05%. If DVT develops, it may lead to symptoms such as limb swelling, pain, and ulceration. In severe cases, it can result in pulmonary embolism or cerebral stroke, both of which can be life-threatening. The one-year mortality rate for DVT following artificial knee surgery is approximately 0.6%, with symptoms typically appearing within 26 days. The physical, psychological, and social impacts of the disease and its treatment can significantly affect the elderly.

Aim/Objective(s)

The aim of this study is to reduce the incidence of lower extremity venous thrombosis (LEVT) in patients undergoing joint replacement surgery and to enhance the accuracy of assessing lower extremity swelling in these patients, achieving an assessment accuracy rate of over 90%. By focusing on improving early detection and management of swelling and thrombosis, the study seeks to implement effective strategies that minimize the risk of LEVT, ultimately improving patient outcomes and recovery.

Methods

This cross-sectional study included a sample of 235 participants. These measures intervention included: Educational Training – A structured training program on the *Standard Procedure for Assessing Lower Limb Swelling after Knee Replacement* to ensure accurate and consistent evaluation by healthcare professionals. Instructional Video – A visual guide titled *Tips for Managing Pain and Swelling after Joint Surgery*, providing patients with essential self-care strategies to alleviate discomfort and reduce swelling. Self-Assessment Scales – The development and implementation of two tools: the *Self-Assessment Scale for Joint Swelling* and the *Self-Assessment Scale for Lower Limb Swelling*, enabling patients to monitor their condition independently. Assessment Toolkit – A comprehensive set of instruments designed to facilitate precise measurement of lower limb swelling, supporting both self-assessment and professional evaluation. Data collection involved a combination of medical record reviews, questionnaires, and checklists. The collected data were then analyzed using SPSS 26 for statistical evaluation.

Results

The study found that among 235 patients who underwent knee replacement surgery, the incidence of lower limb venous thrombosis was 0%. The accuracy of self-assessment for lower limb swelling after surgery reached 97.5%. Additionally, patients showed significant improvements in their ability to assess, manage, and understand swelling, with a statistically significant p-value of <0.05.

Conclusion

These findings highlight the effectiveness of early intervention in preventing lower limb thrombosis complications following knee replacement surgery. Implementing targeted measures, such as structured education, self-assessment tools, and standardized evaluation protocols, can significantly enhance patient outcomes. Moreover, improving patient education and self-assessment skills empowers individuals to actively participate in their postoperative care, leading to better swelling management, increased adherence to treatment recommendations, and reduced anxiety levels. This comprehensive approach not only promotes recovery but also minimizes the risk of long-term complications.

Conflicts of interest related to this abstract: None

P-2098**Improving the use of the surgical safety checklist: a pilot study**

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Introduction

Each year, more than 30,000 surgical procedures are performed at the hospital. As part of standard procedures for surgical interventions a modified WHO safety checklist has been used since 2007. The list is divided into three sections: sign-in, time-out, and sign-out. It points to critical steps such as patient identification, operating side, antibiotic and other treatments administration, and availability of material before and after surgery. It has been demonstrated, when properly used, to improve communication and reduce the risk of errors. However, a recent audit performed in our hospital in 2023 showed poor compliance with the recommendations for proper use of the surgical safety checklist. This is why we took the opportunity of the 2024 Patient Safety Action Week, endorsed by the Swiss Foundation for Patient Safety to launch an initiative to promote the correct use of the surgical safety checklist.

Aim/Objective(s)

The objective of the project was to improve compliance with the use of the patient safety checklist, enhance conformity for each item of the checklist, and ultimately reduce the number of perioperative incidents.

Methods

Two weeks before the Patient Safety Action Week, we performed baseline measurements of compliance in all HUG operating theatres. To promote the proper use of the safety checklist to all staff members, we launched a communication campaign using posters and scientific conferences in the hospital. During Patient Safety Action Week, a checklist leader with an orange vest was in charge of ensuring conformity with each step of the safety checklist. We collected all checklists and assessed their compliance, semi-compliance, or non-compliance. A Microsoft Forms questionnaire was created to record study

results. The data spreadsheet was analyzed by IBM SPSS statistics. We compared the number (N) and proportion (%) of checklists that were fully compliant versus those that were partially or not compliant. To assess between-group differences, we used Chi-square tests and Relative Risk with 95% CI. A P value < 0.05 was considered statistically significant.

Results

During the whole study period, 483 surgical checklist completion processes were assessed, 148 before and 335 after the intervention. All surgical specialties were included. All items were checked, and completion was assessed by 5 different safety experts located in the different surgical theatres. Before the intervention, for the sign-in, time-out, and sign-out sections of the checklist, full conformity was observed respectively in only 5 (3%), 29 (20%), and 6 (4%) of the procedures assessed. After intervention sign-in, time-out, and sign-out sections were adequately completed in 20 (6%), 205 (61%), and 62 (19%) of the cases. These differences were all statistically significant at a P < 0.05, RR 3.5 95% CI [2.4–4.9] for sign-in, RR 3.5 95% CI [2.5–5.0] for time-out, and RR 2.7 95% CI [2.0–3.6] for sign-out.

Conclusion

These significant improvements in the use of the surgical safety checklist following our interventions highlight the positive impact of a communication and leadership enforcement strategy supported by a national initiative such as Patient Safety Action Week. Continued efforts and leadership are essential to maintain and build upon these gains.

Conflicts of interest related to this abstract: None

P-2099

Incidence of naloxone-use before and after implementing opioid prescribing templates on general wards in a Swiss university hospital.

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Introduction

Opioids are high-risk medications that are commonly implicated in severe life-threatening and/or fatal adverse drug events. Inadvertent overdose – a preventable medication error – is often the cause of opioid intoxications in hospitals. Naloxone is the antidote that is given to treat opioid intoxications and its use can detect these adverse events in patient records. "The Opioid Working Group" at the University Hospital Basel (USB) introduced standardized digital prescription templates to ensure safe prescribing and application of as-needed opioids on 24th November 2020.

Aim/Objective(s)

The main objective of this study was to ascertain the incidence of opioid-treated patients requiring naloxone for the management of life-threatening opioid intoxication on the general wards before and after the implementation of the prescription templates.

Methods

This investigator-driven, retrospective, observational, single-center cohort study was designed to investigate the yearly naloxone administrations for life-threatening opioid intoxication in

relation to the number of opioid-treated patients and the number of inpatients from 24th November 2019 to 23rd November 2023. The study population comprised inpatients in general wards who received opioids during their hospital stay. We excluded patients who were solely managed on intensive care, intermediate care, and emergency wards. Information about the yearly number of inpatients treated with naloxone and the total number treated with opioids was obtained from the hospital pharmacy's remuneration database. Electronic health records were manually reviewed for the patients who received naloxone to confirm that the indication was to treat a life-threatening opioid intoxication. We performed descriptive and comparative statistical analyses.

Results

During the four-year study period a total of 80789 patient cases received opioids of which 124 received naloxone (median age 76 years, range 22–96, 50% female) for life-threatening opioid intoxications. The incidence of life-threatening opioid intoxications managed with naloxone per 1,000 opioid-treated patients was 3.2 in the year preceding the introduction of prescribing templates, 1.5 in the first year following their introduction, 1.3 in the second year, and 1.0 in the third year. This represents a 69% reduction since the implementation of the templates (p < 0.0001) (Figure 1). At the same time, the hospital recorded a total of 142136 inpatients. The incidence of opioid intoxications per 1000 inpatients was 1.1 in the year before the introduction of templates, 0.9 in the first year after, 0.8 in the second year, and 0.7 in the third year, corresponding to a 42% decrease (p = 0.04) (Figure 2).

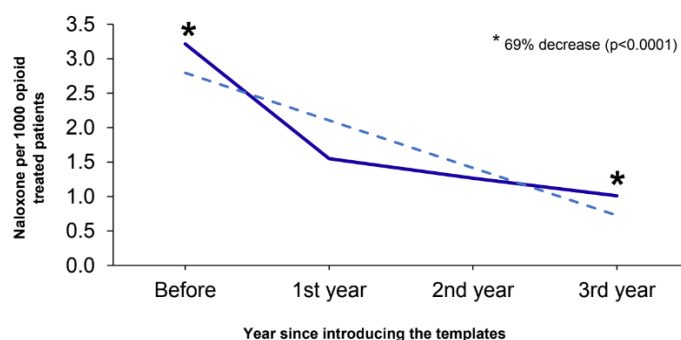


Fig. 1: Yearly incidence of naloxone-use per 1000 opioid treated patients. Dotted line represents the trend.

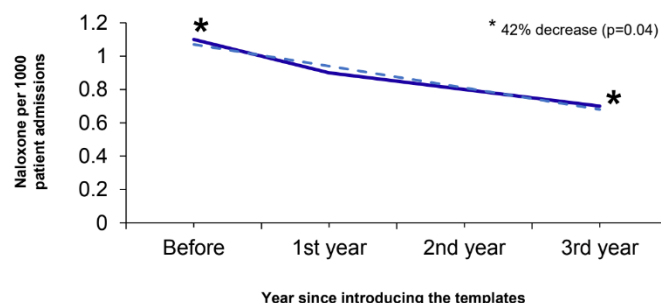


Fig. 2: Yearly incidence of naloxone-use per 1000 patient admissions. Dotted line represents the trend.

Conclusion

Digital prescription templates have helped to promote safe opioid use and improve patient safety in our hospital.

Conflicts of interest related to this abstract: None

P-2100

Incidence, Risk Factors, and Predictors of Cerebrovascular Disease Among Chronic Kidney Disease Stage 5 on Maintenance Hemodialysis

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Introduction

Chronic kidney disease (CKD) is a significant global health issue, with patients on maintenance hemodialysis at a disproportionately high risk for cerebrovascular disease (CVD). CVD, including ischemic and hemorrhagic strokes, is a major cause of morbidity and mortality among CKD patients due to a combination of traditional vascular risk factors and CKD-specific mechanisms such as uremic toxicity and dialysis-related hemodynamic changes. The interplay between these factors remains inadequately studied, particularly in local healthcare settings. This study was conducted at Vicente Sotto Memorial Medical Center (VSMMC), a tertiary hospital in the Philippines, to determine the incidence, risk factors, and predictors of CVD among CKD stage 5 patients on hemodialysis. The findings aim to inform clinical management strategies, improve early detection, and enhance patient outcomes through targeted interventions.

Aim/Objective(s)

This study aims to investigate the incidence, risk factors, and predictors of cerebrovascular disease (CVD) among CKD stage 5 patients on maintenance hemodialysis admitted to Vicente Sotto Memorial Medical Center from January 2018 to December 2022.

1. Specific objectives:
2. Describe the demographic and clinical profiles (e.g., age, sex, BMI, comorbidities) of CKD stage 5 patients on hemodialysis.
3. Assess laboratory markers (e.g., fasting blood sugar, lipid profile, hemoglobin, phosphate levels) in relation to CVD risk.
4. Determine clinical outcomes (e.g., length of hospital stay, ICU admission, mortality) in patients with and without CVD.
5. Identify independent predictors of CVD among these patients.

By identifying modifiable risk factors, this study can guide interventions to reduce cerebrovascular complications in CKD patients.

Methods

This retrospective cohort study reviewed 198 patient records of CKD stage 5 patients on maintenance hemodialysis admitted at VSMMC from January 2018 to December 2022. Patients were included if they were ≥ 19 years old, on hemodialysis, and had a new CVD diagnosis during admission.

Data Collection:

- Demographics: Age, sex, BMI, smoking, alcohol use.
- Comorbidities: Hypertension, diabetes, stroke history.
- Laboratory markers: Blood urea nitrogen (BUN), creatinine, hemoglobin, lipid profile, phosphate.
- Clinical outcomes: Length of stay, ICU admission, mortality.

Data Analysis:

- Descriptive statistics for patient characteristics.
- Bivariate analysis (chi-square, t-tests) to compare CVD vs. non-CVD groups.
- Logistic regression to identify independent predictors of CVD.

Results

The incidence of CVD among CKD stage 5 patients on hemodialysis was 57.6%. Patients with CVD were younger (mean 53.8 years) compared to those without CVD (57.6 years, $p = 0.044$).

Risk Factors:

- Hypertension (most common comorbidity, present in 65.8%).
- Proteinuria showed a high odds ratio but was not statistically significant.
- Older age appeared protective against CVD (OR = 0.934, $p = 0.033$), which contrasts with general population trends.

Laboratory Findings:

- Patients with CVD had significantly higher BUN levels ($p < 0.001$), indicating worse kidney function.
- Hemoglobin levels were lower in those who died compared to those who survived ($p = 0.003$).
- Clinical Outcomes:
- Patients with CVD had shorter hospital stays (<7 days, 67.2%) but higher mortality (60.7%), though mortality differences were not statistically significant ($p = 0.880$).
- Only 2.5% of non-CVD patients required ICU admission, compared to 0% in the CVD group.

These findings suggest that younger CKD patients on dialysis are more vulnerable to CVD, requiring closer monitoring and early intervention.

Conclusion

This study highlights the high burden of cerebrovascular disease (CVD) in CKD stage 5 patients on hemodialysis, with an incidence of 57.6%. Surprisingly, younger patients were at higher risk of CVD, suggesting that CKD accelerates vascular aging. Hypertension and proteinuria emerged as key risk factors, though not all reached statistical significance. Higher BUN levels correlated with poorer prognosis, reinforcing the role of metabolic disturbances in cerebrovascular risk. These findings emphasize the need for routine screening of CVD in CKD patients, particularly among younger individuals. Early intervention for hypertension and proteinuria is crucial to reducing cerebrovascular complications. Additionally, a multidisciplinary approach involving nephrologists, neurologists, and cardiologists is recommended to optimize patient care. In terms of clinical practice improvement, this study supports implementing hospital-based stroke risk stratification for CKD patients and incorporating aggressive blood pressure control in dialysis protocols. Future research should explore biomarkers for early detection and assess whether tailored dialysis protocols can reduce CVD risk. By addressing cerebrovascular complications in CKD patients, this research contributes to enhancing quality and safety in clinical care, aligning with Track 2: Clinical Models Enhancing Quality and Safety.

Conflicts of interest related to this abstract: None

P-2101

Innovative Hospital-at-Home Care Model: Enhancing Accessibility, Efficiency, and Sustainability in Rural Healthcare

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Introduction

The growing demand for healthcare services in rural areas, alongside resource constraints, has emphasized the need for innovative and integrated care models. This study focuses on a hospital-at-home care model implemented in rural Taiwan, aiming to address challenges in accessibility, workforce shortages,

and sustainable service delivery. Collaboration with the Tainan City Fire Department further enhanced emergency medical responses through real-time information sharing, contributing to the broader mission of equitable and high-quality healthcare.

Aim/Objective(s)

This study aimed to evaluate the effectiveness of a hospital-at-home care model in rural Taiwan, focusing on its impact on patient outcomes, accessibility, and operational efficiency. It also sought to explore the role of interdepartmental collaboration and the integration of artificial intelligence in improving medical decision-making and resource allocation, with a focus on sustainable healthcare practices.

Methods

A mixed-methods approach was used, including qualitative interviews with patients and healthcare professionals, and quantitative analysis of patient and operational data. Participants included patients using hospital-at-home services and staff from three rural hospitals. Collaboration with the Tainan City Fire Department enabled the development of a smart interdepartmental coordination platform. Data collection involved patient surveys, medical record reviews, and real-time system usage analytics. Thematic analysis and statistical tools were employed to evaluate outcomes and efficiency.

Results

Key findings include a 30% increase in service utilization in underserved regions and a 90% patient satisfaction rate. Operational efficiency was significantly improved, with a 25% reduction in carbon emissions and faster emergency response times through real-time information sharing enabled by the smart coordination platform. The integration of AI and data analytics enhanced the accuracy of medical decision-making and resource allocation. These achievements demonstrate the success of digital health innovations, further recognized through HIMSS EMRAM Stage 6 certification in 2024, which validates the hospital's efforts in advancing digital transformation.

Conclusion

The hospital-at-home care model, combined with interdepartmental collaboration and AI-driven insights, demonstrates a scalable and sustainable solution for rural healthcare challenges. These innovations improve accessibility, operational efficiency, and patient outcomes while supporting environmentally sustainable practices. The international recognition of digital health achievements, such as HIMSS EMRAM Stage 6 certification, underscores the replicability of this model for healthcare systems globally, contributing to equitable and high-quality care delivery.

Conflicts of interest related to this abstract: None

P-2102

Innovative Learning Strategies for Enhancing Patient and Workforce Safety in Healthcare

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Introduction

Improving patient and workforce safety is crucial in healthcare, with workforce competency directly affecting patient outcomes. Digital learning offers a flexible way for healthcare professionals to enhance their skills, but self-paced courses often face low completion rates, poor engagement, and limited

knowledge retention. Literature shows that specific instructional components such as scenario-based learning and interactive videos can boost engagement, knowledge retention, and skill application. To assess their impact, an interactive, self-paced eLearning course on informed consent was developed, integrating these methods with embedded assessments. The course aimed to enhance decision-making, minimize consent-related errors, and reach over 140,000 healthcare practitioners registered in the SCFHS digital platform. This study examines the impact of innovative self-paced learning strategies, including scenario-based learning and interactive videos, could address common challenges and improve workforce performance within patient safety, providing insights for future programs design.

Aim/Objective(s)

This study aims to highlight how instructional components effectively address challenges in self-paced learning for healthcare practitioners. It presents evidence-based outcomes to guide the design of future self-paced courses, ensuring they are optimized for healthcare practitioners in Saudi Arabia. Additionally, it shares key findings that can inform best practices for instructional design in self-paced health professions education.

Methods

The course was developed using an instructional design approach following five stages: Analysis, Design, Development, Implementation, and Evaluation, known as the ADDIE model. A multidisciplinary team of subject matter experts (SMEs) in healthcare ethics, instructional designers, and e-learning specialists collaborated in this process. To evaluate the course performance, quantitative and qualitative data were collected from platform analytics, including course completion rates, time spent on learning activities, post-course surveys, and open-ended feedback to capture learner experiences and satisfaction with the instructional components.

Results

A total of 63,024 healthcare practitioners enrolled in the course, achieving a completion rate of 92% (58,231 learners) – the highest completion rate compared to other self-paced courses on the SCFHS digital platform. Knowledge retention improved, with pre- and post-course assessments difference showing an average of 47% among learners. Post-module surveys reported an average satisfaction score of 9.76 out of 10. These findings highlight the effectiveness of scenario-based and interactive learning strategies in self-paced courses for healthcare practitioners.

Conclusion

The course achieved a 92% completion rate (58,231 learners) – the highest recorded among similar self-paced programs – along with a 47% improvement in knowledge retention and an average satisfaction score of 9.76 out of 10. These results demonstrate how effective instructional components, such as scenario-based learning and interactive videos, address common challenges in self-paced learning, including low engagement and poor retention. The success of this course establishes a practice model that can be applied to other professional development programs. Expanding the use of scenario-based learning and interactive videos across self-paced courses, combined with the development of standardized modules, can help ensure consistency in learning outcomes. Additionally, continuous data collection and feedback analysis should guide future course designs and inform evidence-based educational policies for healthcare practitioners.

Conflicts of interest related to this abstract: None

P-2103

Integrated care through digital transformation: Neurona Project, a holistic approach for complex chronic conditionsMr CARLOS VARELA FERRO CHIEF OPERATING OFFICER*Fundació Aspace Catalunya, Spain***Introduction**

The *Neurona Project* represents a pioneering initiative in integrated care, bridging the social, healthcare, and educational sectors to support individuals with complex chronic conditions. Developed by *Fundació Aspace Catalunya*, this digital platform enhances person-centered care by leveraging connected technology, remote monitoring, and interdisciplinary collaboration. *Neurona* was born out of the need for better coordination between services and families, ensuring that individuals with neurodevelopmental disorders, cerebral palsy, and multiple disabilities receive tailored, continuous, and proactive care. By integrating digital tools, we empower users, caregivers, and professionals to streamline processes, access real-time information, and optimize decision-making. This project aligns with the global movement towards digital health transformation, addressing accessibility, scalability, and sustainability. By leveraging AI, data analytics, and mobile health solutions, *Neurona* fosters improved quality of life, enhances home-based care, and promotes preventive interventions, positioning it as a benchmark for integrated digital care models.

Aim/Objective(s)

The *Neurona Project* aims to enhance integrated care for individuals with complex chronic conditions by leveraging digital health solutions to connect the social, healthcare, and educational sectors. Its primary objectives are:

- To implement a person-centered digital platform that improves care coordination and decision-making.
- To enhance home-based and remote care by integrating assistive technologies, telemedicine, and AI-driven monitoring.
- To empower patients and caregivers through accessible, real-time information and digital tools for self-management.
- To facilitate interdisciplinary collaboration across healthcare providers, educators, and social services.
- To establish a data-driven approach for predictive analytics, quality improvement, and proactive interventions.
- To ensure scalability and interoperability, fostering digital transformation within the SISCAT network and beyond.

By integrating these objectives, *Neurona* advances the efficiency, accessibility, and sustainability of care models, addressing the needs of highly complex patients while optimizing healthcare resources.

Methods

The *Neurona Project* follows an Agile development methodology, specifically leveraging the Scrum framework, to ensure adaptability, efficiency, and continuous improvement in digital health solutions.

The project is structured into iterative development cycles (sprints) of 2–4 weeks, with each sprint focused on delivering functional increments, tested and validated with all specially, the high-complexity patient population.

The development phases include:

1. Requirement Analysis: Co-design with professionals, caregivers, and patients to define system needs.
2. MVP Development: Initial prototyping focused on accessibility and usability.
3. Incremental Testing & CI/CD: Continuous validation with users, ensuring compliance, security, and interoperability.

4. Pilot Implementation: Deployment in residential, outpatient, and home care settings, refining functionalities based on feedback.
5. Scaling & Integration: Expansion within public system, ensuring data interoperability and AI-driven decision support (AI will be implemented soon)

This user-centered approach enhances accessibility, optimizes resources, and fosters collaborative innovation, ensuring seamless integration of social, healthcare, and educational services.

Results

The *Neurona Project* has demonstrated significant advancements in integrated digital care for individuals with cerebral palsy (CP) and high-complexity conditions. Through Agile development and Scrum, we have successfully deployed a product that enhances accessibility, usability, and care coordination.

Key findings include:

- Improved care coordination: reported a reduction in administrative workload through automated patient data integration.
- Enhanced accessibility: users reported increased engagement via customized digital interfaces tailored to mobility and communication needs.
- Increased service efficiency: Digital home-based care tools enabled a reduction in unnecessary in-person visits.
- Data-driven decision-making: AI-powered predictive analytics will improve early detection of clinical deterioration in monitored cases.
- Positive user adoption: professionals and caregivers found the platform intuitive and beneficial for multidisciplinary collaboration.

The pilot implementation across residential, outpatient, and home settings validated the platform's scalability and interoperability, ensuring sustainable long-term digital transformation in integrated care models.

The results confirm *Neurona's* potential to redefine digital health strategies, fostering collaborative innovation and person-centered care.

Conclusion

The *Neurona Project* demonstrates how integrated digital health solutions can transform care models for individuals with cerebral palsy (CP) and complex chronic conditions. By leveraging Agile methodologies and AI-driven decision-making, the platform enhances care coordination, accessibility, and efficiency across social, healthcare, and educational systems. The results confirm that user-centered digital solutions reduce administrative burden, improve patient engagement, and optimize home-based and outpatient care services. The interoperability with public system ensures scalability, reinforcing *Neurona's* capacity to strengthen policy frameworks for integrated care. This initiative aligns with global healthcare digital transformation goals, offering a replicable model for other high-complexity care settings. The data-driven approach not only enhances clinical decision-making but also contributes to research and policy development by providing real-world evidence on digital health's impact. Future developments will focus on expanding AI capabilities, integrating predictive analytics, and further optimizing remote care pathways. By embedding *Neurona* into national and international care networks, this model sets a new standard for inclusive, person-centered, and technology-driven integrated care. *Neurona's* success reinforces the urgent need for digital innovation to bridge gaps in complex care management, ensuring sustainability and improved quality of life for vulnerable populations.

Conflicts of interest related to this abstract: None

P-2104

Integrating Journal club into Clinical Practice in Royal Hospital

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Introduction

In Oman, journal clubs are integral to the medical and healthcare, fostering continuous education and the adoption of evidence-based practices (EBP). At Royal Hospital in Oman, journal clubs have been established since 2020 to promote evidence-based nursing practices. The journal clubs is the informal meeting of professional group to read, critique, update current knowledge. These sessions are closely monitored by expert researchers and have led to significant improvements in clinical practices. Participating in these journal clubs offers healthcare professionals in Oman opportunities for professional development, networking, and staying abreast of the latest research and clinical practices. Now adays in Royal Hospital most of the nurses are aware about journal club and they are monthly conducting it, with their superior in order to update to the recent research and adopt it to into clinical practice.

Aim/Objective(s)

The journal clubs aim to enhance confidence in evaluating scientific literature, stimulate professional growth, and support lifelong learning. Through regular meetings, nurses can share insights, discuss ethical considerations, and integrate best practices into patient care. Additionally, the club encourages mentorship and leadership development by engaging nurses in active discussions and presentations. Overall, the Journal Club serves as a valuable educational forum, strengthening the hospital's commitment to high-quality, evidence-based nursing care.

Methods

At Royal Hospital, journal clubs have been established to promote evidence-based nursing practices. Through administration, a system of journal club number of sessions, requirement, method have been emphasized for all units and departments. Special tracking system was established to monitor the number of sessions, attendance, impact of the activity in each department. These journal club established by researcher and they set a criteria in how to conduct it by encouraging each department to conduct a journal club at least every 1 to 2 month. Focal points in each unit and department were selected and then invited to attend awareness session how to conduct journal club. special toolkit was formulated and then communicated with all nurses specifying objectives, steps, and critical appraisal tools. Then this toolkit was uploaded into the document management system. Special pre and post assessment survey was created to monitor the impact of the sessions on nurses' knowledge.

Results

In 2024, total of 79 journal club sessions were conducted with 1023 attendees. This has resulted to significant improvements in clinical practices, updating 12 policies that are driven by journal club sessions. The system of having regular journal club in each unit led to significant improvements in participants' knowledge and skills toward evidence-based practice (EBP). In each journal club, there was pre and post knowledge assessment to measure the impact of this informal group meetings. Based on results, the post assessment reflected significant improvement in different components such as the ability to formulate a PICO question increased from 40% to 74.2%, reflecting a 34.2% increase. The capability to identify articles based on

the EBP hierarchy rose from 38.2% to 75.3%, marking a 37.1% increase. Additionally, the proficiency in scanning a research article for content improved from 44.1% to 79.6%, demonstrating a 35.5% enhancement. Participants' ability to critique a research article showed a substantial improvement, rising from 35.3% to 78.5%, representing a 43.2% increase. Similarly, the ability to identify research gaps increased significantly from 29.7% to 78.5%, reflecting a 48.8% improvement. These findings highlight the effectiveness of the journal club session in strengthening participants' critical appraisal and EBP skills.

Conclusion

The Journal Club led to enhancement in the patients care, safety, and quality. This was evident by the number of journal club driven policy updates, and nurses knowledge post sessions. It provides a platform for nurses to engage in scholarly discussions, analyze recent research, and apply findings to clinical practice. By fostering a culture of continuous learning, the club helps nurses stay updated with advancements in healthcare, improving patient outcomes.

Conflicts of interest related to this abstract: no conflict of interest

P-2106

Interprofessional Collaboration Practice Competency Scale (IPCPCS) for Clinical Nurses in Taiwan – A Preliminary Study

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Introduction

The ultimate goal of modern healthcare is to deliver high-quality, patient-centered, holistic care. Interprofessional collaborative practice (IPCP) is a key strategy to achieve this, improving health intervention access, departmental coordination, and job satisfaction for healthcare professionals. For patients, IPCP yields benefits like better chronic disease management, lower surgery costs, improved provider communication, and higher satisfaction. Since 2007, Taiwan's Ministry of Health and Welfare has promoted training programs in IOM core competencies for novice medical personnel. The "Two-Year Nurse Post-Graduate Year (NPGY) Training Program" mandates interprofessional collaboration activities (IPE) in its later stages, fostering IPCP and enabling institutions to advance patient-centered holistic care.

Aim/Objective(s)

Interprofessional collaborative practice is a core competency and is the key to strengthening health practice systems in order to deliver safe and high-quality nursing practice. However, there is no Interprofessional Collaboration Practice Competency Scale (IPCPCS) for clinical nurses in Taiwan. Therefore, the purposes of this study were to develop an IPCPCS and to verify its reliability and validity.

Methods

This was a psychometric study with a cross-sectional survey using convenience sampling to recruit nurses from the seven hospitals of a medical foundation. A self-designed structured IPCPCS was rolled out via a Google survey, consisting of 38 Likert-scale items (scored from 1 = none to 7 = excellent). Higher scores indicate stronger IPCP competencies. The data were analyzed using descriptive statistics, principal-axis factoring (PAF) with Promax rotation, Pearson correlation, reliability analysis, and one-way ANOVA.

Results

A total of 578 nurses participated, of whom 96.7% were female. The most common age group was 26 to 30 years (22.6%), with a mean age of 34.48 (SD = 7.87). Moreover, 84.3% of the participants had a bachelor's degree in nursing. The most common work experience group was 5.1 to 10 years (29.9%), with a mean of 11.08 (SD = 7.80). Most of the participants (25.0%) were of rank N2. PAF analysis found that three factors could explain 77.76% of cumulative variance. These were collaborative leadership and interprofessional conflict resolution, interprofessional communication and team functioning, and role clarification and client-centered care. The internal consistency of the three factors (Cronbach's α) was between 0.970 to 0.978, and the Pearson correlation coefficients were between 0.814 to 0.883. Significant differences were presented in the IPCPCS score by age ($p = 0.001$), education level ($p = 0.002$), total years of work experience ($p < 0.000$), nursing clinical ladder ($p < 0.000$), and prior participation in an interprofessional education ($p < 0.000$).

Conclusion

This study has demonstrated the IPCPCS's validity and reliability in assessing the competencies essential to achieving effective interprofessional collaboration. The three identified core competencies, including collaborative leadership and interprofessional conflict resolution (CLICR), interprofessional communication and team functioning (ICTF), and role clarification and client-centered care (RCCC), explained 77.76% of the total cumulative variance, providing a comprehensive framework for understanding and enhancing interprofessional collaboration among clinical nurses. This scale can be used as an evaluation tool of in-service interprofessional education courses for clinical nurses.

Conflicts of interest related to this abstract: NO

P-2107

Intrahospital Transport: Stay Alert! Stay Safe!

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Introduction

Intrahospital transportation of critically-ill patients is common in Intensive Care Unit (ICU). There was frequent intrahospital transportation of critically-ill patients in Caritas Medical Centre (CMC) ICU. The number of intrahospital transportation was estimated to be 50-70 per month in 2022. An inward audit was conducted to review the current practice and enhance transportation safety in CMC ICU from November 2022 to March 2023. 54% of compliance to transportation checklists, inadequate alertness to alarms and ineffective communication were revealed in the audit. Although post-audit sharing with recommendations were introduced to nursing staff, regular review and training should be provided for transportation safety, especially for newly joined staff. A simulation training program and regular transportation audit were designed and conducted from March 2024 to September 2024 in CMC ICU to promote transportation safety of critically-ill patients.

Aim/Objective(s)

1. Improve situational awareness and emergency response during transportation.
2. Enhance teamwork and communication.

3. Increase compliance with the transportation checklists.

Methods

The 3-phase training program was implemented from March to May, 2024, followed by a transportation audit for review in September 2024. A convenience sampling method was adopted to recruit doctors, nurses and patient care assistants.

Phase 1: Simulation: A 30-minute simulation was evaluated with checklists and a staff evaluation form to gather feedback and assess simulations' effectiveness.

Phase 2: Post-simulation sharing: Post-simulation sharing sessions were provided to nurses, highlighting the strengths, weaknesses, recommendations and learning points.

Phase 3: Onsite audits: The onsite audits were targeted at Category 1 and Category 2 unstable intrahospital transportation. Transportation checklists were collected for result analysis.

Review: Regular transportation audit

Based on the amended transportation guideline in April 2024 from Hospital Authority, a modified scenario was established, focused on the categorization, oxygen cylinder utilization, interdepartmental communication, situational awareness and equipment preparation. The participants were assessed by an audit checklist, followed by a staff evaluation form.

Results

1. The 3-phase training program: Nurses, doctors, and patient care assistants were recruited. Checklist: The compliance rate was increased from 79% in simulation to 98% in onsite audit. Preparation: Participants demonstrated 100% compliance with equipment preparation and utilization of oxygen cylinder; Compliance with medication preparation was increased from 70% in simulation to 100% in audits. Communication: Participants maintained 100% compliance on effective communication with transport destinations; Compliance on clear role delegation was improved from 70% in simulation to 100% in onsite audits. Situational awareness: Participants demonstrated 100% compliance on reviewing patients' hemodynamic status and tackling existing alarms.

2. Review: Regular transportation audit Doctors, nurses and patient care assistants were invited. Participants maintained 100% compliance on equipment preparation, effective communication and situational awareness. The compliance rate of the transportation checklists increased from 98% in the previous audit to 100% in the recent transport audit. Staff evaluation: Over 90% of participants agreed that the simulation training improved their skills in handling emergency situations, with increased situational-awareness, confidence and competence during intrahospital transportation as well as the enhancement of communication and teamwork between colleagues.

Conclusion

Adverse events are common in critically-ill ICU patients. However, simulation training enhances the safety of intra-hospital transportation. There was a significant improvement on the compliance of transportation checklists. Moreover, in onsite audit, auditees showed greater situational awareness than in simulation training related to patients' condition changes, alertness to hemodynamic and equipment alarms. Better collaboration and communication between staff were observed in onsite audit after simulation training. Team members provided clear role delegation, instructions and clarifications throughout transportation. All participants agreed the training program fosters teamwork among different disciplines, enhances their situational awareness and confidence in emergency response. A regular simulation training would be carried out to promote intrahospital transportation safety. With further simulation training of intra-hospital transportation in the future, it is anticipated

that our staff' emergency response would be markedly enhanced. Accordingly, many of the preventable adverse events and incidents could be avoided.

Conflicts of interest related to this abstract: None

P-2108

KNOWLEDGE AND ATTITUDE TOWARD NEEDLE STICK INJURY AMONG HEALTH CARE WORKERS IN A TERTIARY HOSPITAL IN METRO MANILA.

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Introduction

Needlestick injuries (NSIs) are a significant occupational hazard for healthcare workers (HCWs), exposing them to bloodborne infections such as HIV, hepatitis B, and hepatitis C. Despite established infection prevention and control (IPC) measures, NSIs continue to occur, highlighting gaps in knowledge, attitudes, and adherence to safety protocols. At Tondo Medical Center, a tertiary hospital in Metro Manila, HCWs face daily risks due to high patient volume and frequent exposure to needles and sharp instruments. Understanding HCWs' knowledge and attitudes toward NSIs is crucial for strengthening IPC programs, enhancing safety measures, and improving compliance with reporting protocols. This study aims to assess HCWs' awareness of NSI transmission routes, prevention strategies, and post-exposure management while identifying barriers to compliance. By addressing these gaps, the findings will contribute to evidence-based interventions, fostering a safer work environment and reducing the risk of occupational injuries in the hospital setting.

Aim/Objective(s)

This study aims to assess the knowledge and attitudes of healthcare workers (HCWs) toward needlestick injuries (NSIs) in a tertiary hospital in Metro Manila. By evaluating their awareness of NSI transmission routes, prevention strategies, reporting procedures, post-exposure protocols, and associated risks, the study seeks to identify gaps that contribute to NSI occurrences and inadequate reporting. Additionally, it examines HCWs' attitudes regarding the seriousness of NSIs, adherence to preventive measures, and perceived barriers to reporting. The study also explores the relationship between HCWs' demographic profiles and their knowledge and attitudes toward NSIs. Findings from this research will serve as the basis for enhancing the hospital's Infection Prevention and Control (IPC) program through targeted interventions, educational initiatives, and policy improvements. Ultimately, this study aims to improve HCWs' compliance with safety protocols, reduce NSI incidents, and create a safer working environment in the healthcare setting.

Methods

This study employed a descriptive correlational quantitative design using a survey method to assess healthcare workers' knowledge and attitudes toward needlestick injuries (NSIs) at Tondo Medical Center. The study population consisted of full-time employees, job order workers, interns, and affiliates with at least six months of work experience and direct exposure to sharps. Data were collected using a validated KA-NSI questionnaire with 30 items (15 for knowledge, 15 for attitude). Content validation was conducted by experts, and pilot testing ensured reliability. The data collection lasted one to two months. For statistical analysis, frequency and percentage described the demographic profile. Mean scores determined the level of knowledge and attitude. Chi-square tests analyzed relationships between demographic factors and knowledge/attitude, while Pearson's *r* correlation assessed the relationship between

knowledge and attitude. Findings guided the development of an enhancement program based on identified gaps.

Results

The study revealed that healthcare workers (HCWs) at Tondo Medical Center demonstrated a generally high level of knowledge regarding needlestick injuries (NSIs). 64% of respondents scored 13 or higher out of 15, indicating strong awareness of NSI transmission routes, prevention strategies, reporting procedures, and post-exposure protocols. However, 10% of respondents scored below 10, highlighting areas requiring targeted education and reinforcement. In terms of attitude, the majority of HCWs showed a positive stance toward NSI prevention and reporting, with high agreement levels on the Likert scale. However, some participants reported barriers to reporting, including perceived workload and lack of institutional support. Statistical analysis using chi-square tests revealed significant associations between HCWs' demographic profiles and their knowledge and attitudes. Additionally, Pearson's correlation ($r > 0.5$) indicated a moderate to strong positive relationship between knowledge and attitude, suggesting that higher awareness leads to better compliance with safety measures.

These findings highlight the need for continuous education, strengthened policies, and enhanced institutional support to improve NSI prevention and reporting. The results serve as a foundation for refining the hospital's Infection Prevention and Control (IPC) program, ensuring a safer working environment for HCWs.

Conclusion

Based on the survey results, healthcare workers at Tondo Medical Center demonstrated a generally high level of knowledge regarding needlestick injuries (NSIs), with the majority scoring between 11 to 15 out of 15. Specifically, 64% of respondents achieved scores of 13 or higher, indicating strong awareness of NSI transmission, prevention, reporting, and post-exposure protocols. However, a small percentage (approximately 10%) scored below 10, suggesting gaps in knowledge that require targeted interventions. Attitude assessment revealed that most respondents held a positive stance toward NSI prevention and reporting, as reflected by high agreement levels on the Likert scale. Despite this, some respondents cited barriers such as perceived workload and lack of institutional support as deterrents to reporting incidents. Statistical analysis employed chi-square tests to assess relationships between demographic factors and knowledge/attitude levels, while Pearson's *r* was used to examine correlations between knowledge and attitude. Results indicated a significant positive correlation ($r > 0.5$), highlighting the need for continuous education and reinforcement of hospital policies. Based on these findings, strengthening the Infection Prevention and Control program through targeted training and institutional support is recommended.

Conflicts of interest related to this abstract: None

P-2109

Lean implementation of pleurX catheter for efficient home-based fluid management

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Introduction

Recurrent pleural effusions and ascites are common complications in patients with chronic or life-limiting illnesses, significantly affecting their quality of life and increasing hospital admissions. Traditionally managed with pigtail or intercostal drains, these methods often result in frequent hospital visits, higher infection risks, and limited patient autonomy. At our healthcare facility, the need for a patient-centered, efficient,

and home-based solution became evident. The PleurX catheter, a minimally invasive, long-term drainage system, was introduced to address these challenges. It allows patients to safely manage fluid buildup at home, reducing hospital stays and associated healthcare costs. By aligning with palliative care goals, the PleurX catheter improves symptom control, enhances patient autonomy, and supports holistic care. Its implementation reflects our commitment to advancing innovative, patient-centered solutions that meet the unique needs of palliative care patients while optimizing resource utilization in our healthcare system.

Aim/Objective(s)

The primary aim of this project is to enhance the management of recurrent pleural effusions and ascites in patients with chronic or life-limiting illnesses through the implementation of the PleurX catheter. The key objectives are:

1. Reduce hospital admissions and ER visits for fluid drainage by 50% within six months, providing a more efficient and patient-centered care approach.
2. Improve patient satisfaction and quality of life (QOL) by 75% within two months, aligning with palliative care goals to prioritize comfort and autonomy.
3. Train 70% of caregivers in the proper use of the PleurX catheter within two weeks, ensuring safe and effective home-based fluid management.

Methods

This project utilized a quality improvement framework grounded in the Lean methodology to enhance efficiency and patient outcomes in fluid management using the PleurX catheter. Conducted at the Royal Hospital in Oman, the initiative focused on patients with recurrent pleural effusions or ascites requiring frequent fluid drainage. Key stakeholders included palliative care specialists, interventional radiologists, nursing staff, and caregivers. The intervention involved transitioning from hospital-based to home-based fluid drainage, supported by telemedicine consultations to ensure accessibility and continuity of care. Caregiver education was a central component, aiming to train 70% of caregivers within two weeks on the safe use of PleurX catheters. A Plan-Do-Study-Act (PDSA) cycle was employed to guide the process improvement, beginning with identifying inefficiencies, implementing changes, monitoring outcomes, and scaling successful practices. Data collection included quantitative measures, such as reduced hospital visits, waiting times, and infection rates, alongside qualitative feedback from patients and caregivers.

Results

The implementation of the PleurX catheter has led to significant improvements for patients managing recurrent pleural effusions and ascites. Compared to traditional drainage methods, such as pigtail catheters and intercostal drains, the PleurX catheter has shown better results in enhancing patient autonomy, satisfaction, and quality of life (QOL). Traditional methods often require frequent hospital visits, leading to discomfort, stress, and higher infection risks. The PleurX catheter allows safe, at-home fluid drainage in 15–20 minutes, cutting hospital visits and admissions by 50% within six months. This autonomy helps patients manage their condition independently, reducing emotional and physical stress. Patients experienced a 75% improvement in satisfaction and comfort within two months, attributed to the catheter's convenience and effectiveness. Symptom reduction, especially discomfort from fluid buildup, enhanced overall well-being. Caregiver training in catheter use ensured proper home management, alleviating the strain on healthcare facilities and reducing emotional stress for both patients and families. The PleurX catheter reduced infection risks and improved procedural efficiency. Telemedicine support al-

lowed patients to receive medical guidance from home, enhancing comfort and reducing stress. By optimizing resources and emphasizing patient-centered care, it promoted greater independence and comfort, making it an effective solution for managing pleural effusions and ascites.

Conclusion

In conclusion, the PleurX catheter has transformed the management of recurrent pleural effusions and ascites by providing a safe, efficient, and patient-centered alternative to traditional drainage methods. Unlike conventional approaches, which often require frequent hospital visits and invasive procedures, the PleurX catheter allows for simple, at-home fluid drainage, significantly reducing hospital dependency and enhancing patient autonomy. This shift in care has alleviated the physical and emotional stress of repeated hospitalizations, enabling patients to experience greater comfort and a marked reduction in symptoms. The catheter's minimally invasive design and ease of use have empowered patients to take control of their care while ensuring safety and effectiveness. Families and caregivers, supported by comprehensive training, have played a crucial role in facilitating this transition, fostering a supportive and collaborative home care environment. Additionally, the integration of telemedicine provided patients with ongoing medical support, enhancing confidence and convenience while reducing risks like infections associated with traditional methods. This initiative has demonstrated the value of a lean healthcare approach by improving patient satisfaction, reducing resource utilization, and promoting independence. The PleurX catheter has set a new standard in palliative and supportive care, offering a holistic solution that prioritizes dignity, well-being, and quality of life.

Conflicts of interest related to this abstract: None

P-2110

Learning Lessons from Incident Reports to Enhance Patient Safety at Royal Hospital

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Introduction

Incident reporting is a cornerstone of improving patient safety in healthcare organizations. Analyzing reported incidents helps identify system vulnerabilities, uncover trends, and implement strategies to mitigate future risks. Incident reporting systems are designed to capture errors, near misses, and adverse events, enabling healthcare organizations to analyze patterns, understand root causes, and implement preventive measures (World Health Organization, 2019). At Royal Hospital, a comprehensive review of incident reports could offer valuable lessons to enhance safety culture, minimize errors, and improve clinical outcomes. Moreover, at Royal Hospital also, the incident reporting system serves as an important for monitoring and improving patient safety. However, there is limited research examining how the system is utilized and the barriers healthcare workers face in reporting incidents. Researching the effectiveness of lessons learned from incident reports at Royal Hospital will bridge existing gaps in understanding underreporting, reporting accuracy, and how feedback from reports translates into practice improvements.

Aim/Objective(s)

This study aims to evaluate the effectiveness of the current incident reporting system, explore the factors influencing reporting behavior, and identify lessons that can improve patient safety practices. By addressing these gaps, the study seeks to

provide actionable recommendations for enhancing the reporting culture and fostering a safer healthcare environment.

Objectives

1. To analyze the trends and themes in incident reports at Royal Hospital.
2. To identify barriers to and facilitators of effective learning from incident reports.
3. To evaluate the existing feedback and learning mechanisms for utilizing incident reports.
4. To recommend strategies for fostering a robust culture of reporting and learning to enhance patient safety.

Methods

This study was used a mixed-methods approach, combining both quantitative and qualitative research methods to provide a comprehensive understanding of how incident reports can be leveraged to improve patient safety at Royal Hospital.

Study Setting

The study was conducted at Royal Hospital, Oman, a tertiary healthcare facility known for its commitment to quality management and patient safety.

Target Population

- Healthcare workers, including physicians, nurses, and allied health professionals.

Data Collection

1. Quantitative Data

- Retrospective analysis of incident reports from the last 3 years.
- Descriptive statistics to identify patterns and trends in reported incidents.

2. Qualitative Data

- Focus group discussions and in-depth interviews with healthcare workers to understand their perceptions of incident reporting and learning.
- Thematic analysis of qualitative data to identify barriers, facilitators, and improvement opportunities.

Data Analysis

- Statistical analysis for quantitative data using software such as SPSS or Power BI.
- Software-aided thematic analysis (e.g., NVivo) for qualitative data.

Results

A total of 2,500 incidents were analyzed, with medication errors (35%) and patient falls (25%) being the most common. Key barriers to reporting included fear of blame (40%), lack of time (35%), and insufficient feedback (20%). Participants emphasized the need for a just culture, simplified reporting systems, and improved feedback mechanisms. Examples of system-level improvements based on reported incidents included enhanced fall-prevention protocols and better medication labeling practices.

Qualitative Results

1. Underreporting and Fear of Blame: The fear of punitive action was a dominant theme, reflecting a culture that may not fully embrace non-punitive reporting.
2. Feedback Loops and Transparency: The lack of feedback on reported incidents creates a disconnect between reporters and the system. The study emphasizes that timely feedback enhances trust, motivates reporting, and that impact of incident reports on patient safety.
3. Learning from Incident Reports: These findings found that learning from incident reports is a critical step in addressing latent system failures and preventing recurrence.
4. Barriers and Suggestions: Complex reporting systems and time constraints emerged as barriers. Simplifying reporting

tools and integrating them into clinical workflows can enhance usability. The importance of education and training in improving reporting culture.

Conclusion

The study highlights the importance of fostering a non-punitive reporting culture, providing timely feedback, and streamlining reporting processes to encourage participation. Incident reporting systems are essential for improving patient safety, but their effectiveness depends on addressing barriers such as fear of blame, lack of feedback, and process inefficiencies. By fostering a just culture, providing timely feedback, and streamlining reporting mechanisms, Royal Hospital can maximize the potential of its incident reporting system to improve patient safety. These interventions will not only enhance reporting rates but also create a safer healthcare environment for patients and staff alike. While challenges such as underreporting and lack of feedback persist, implementing strategies to foster a culture of learning can maximize the potential of these systems. By analyzing incident reports and addressing barriers, Royal Hospital can improve its safety practices and outcomes. Future efforts should focus on integrating technology, promoting education, and conducting longitudinal assessments of system changes.

Conflicts of interest related to this abstract: none

P-2111

Making Healthcare Safer: The Role of Policy and Technology in Preventing Workplace Violence

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Introduction

Workplace violence (WPV) in healthcare is a crisis that demands urgent attention. Studies show that healthcare workers are up to five times more likely to experience violence compared to other industries, with over 60% of incidents going unreported due to fear of retaliation or lack of institutional support. As healthcare evolves beyond hospital walls into decentralized models – home care, mobile units, and remote patient services – the risks are only becoming more complex. Yet, we must ask: Is WPV truly preventable, or is it an unavoidable reality of caregiving? Advances in AI-driven predictive analytics, real-time safety alerts, and wearable duress systems offer unprecedented opportunities to shift from reactive crisis management to proactive prevention. In this session, we will explore the intersection of technology, policy, and workforce well-being to determine whether we are closer than ever to making WPV prevention a reality – or if fundamental barriers remain.

Aim/Objective(s)

Our goal is to critically assess the feasibility of WPV prevention in modern healthcare settings and explore how emerging technologies and policy frameworks can drive sustainable change. By analyzing real-world scenarios and data-driven insights, we aim to:

- Identify the most pressing WPV risks across hospitals, home healthcare, and mobile care models.
- Examine how AI, real-time alerts, and wearable duress systems enhance frontline safety.
- Explore how regulatory frameworks can standardize WPV prevention strategies.
- Engage participants in an interactive discussion to share challenges and solutions.

By fostering a solution-oriented dialogue, we will equip healthcare leaders, security professionals, and frontline caregivers with the tools and strategies needed to shift from crisis response to proactive risk mitigation.

Methods

This session will follow a structured presentation format, integrating expert insights, case-based discussions, and interactive audience engagement to facilitate learning. A panel of experts with diverse perspectives – from clinical care, security, and technology – will provide a multifaceted exploration of WPV prevention challenges and solutions. The session will begin with a data-driven overview of WPV trends and their impact on healthcare staff and patient care. This will be followed by an examination of innovative technologies and how they can enhance safety in both hospital and decentralized settings. An interactive segment will invite participants to share experiences and challenges in implementing WPV prevention strategies. Utilizing IAHS resources, best-practice guidelines, and real-world case studies, we will provide attendees with practical tools and strategic approaches to improve WPV prevention measures in their own organizations.

Results

By the end of this session, participants will gain a deeper understanding of WPV risk factors and the practical strategies available to mitigate them. They will leave with:

- Clear insights into emerging technologies – how AI, real-time alerts, and predictive analytics can enhance staff safety.
- A better grasp of structured security frameworks – how standardization improves prevention and response across different care environments.
- Practical takeaways for implementation – identifying key steps to integrate prevention strategies into existing safety protocols.

In addition to security improvements, structured WPV prevention strategies have a direct impact on workforce retention and burnout reduction. Studies indicate that when healthcare workers feel protected and supported, they experience higher job satisfaction, lower stress levels, and increased long-term commitment to their roles. This session will provide participants with the knowledge to advocate for policy changes, leverage new technologies, and drive organizational shifts that not only reduce WPV incidents but also create a safer and more sustainable healthcare workforce.

Conclusion

Preventing WPV in healthcare requires a strategic combination of technology, policy, and cultural change. While many organizations still operate in reactive mode, this session emphasizes the need for a proactive, structured approach – one that integrates advanced safety solutions, clear security protocols, and leadership accountability.

Key takeaways include:

- Technology-driven prevention tools can significantly improve safety outcomes.
- Standardized security frameworks create consistency and strengthen prevention measures.
- Workforce well-being is directly tied to safety strategies – retention and burnout reduction depend on how secure and supported employees feel in their work environment.

For WPV prevention efforts to succeed, healthcare organizations must align security strategies with frontline realities. This requires collaboration between clinical staff, security professionals, and policymakers, ensuring that solutions are not only effective but also sustainable in diverse care settings. By leveraging innovation, policy alignment, and cross-sector collab-

oration, we can shift WPV prevention from an ongoing challenge to an achievable reality – one that protects both caregivers and patients alike.

Conflicts of interest related to this abstract: None

P-2112

Measuring the Impact of WHO Patient Safety Standards on Patient Outcomes in Tertiary Royal Hospital

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Introduction

Background & Rationale: Patient safety is a fundamental aspect of healthcare quality, and the World Health Organization (WHO) has developed global patient safety standards to improve healthcare delivery. Tertiary care hospitals, like Royal Hospital, handle complex medical cases, implementing patient safety standards crucial for reducing adverse events and improving patient outcomes. This study aims to assess the impact of WHO patient safety standards on patient outcomes in Royal Hospital, focusing on key safety indicators and clinical outcomes.

Research Problem: Despite the implementation of WHO patient safety standards, there is limited evidence on their direct impact on patient outcomes in tertiary hospitals and evaluating the effectiveness of these standards can help enhance patient safety policies and practices.

Aim/Objective(s)

This study aims to assess the impact of WHO patient safety standards on patient outcomes in Royal Hospital, focusing on key safety indicators and clinical outcomes.

1. To assess the level of implementation of WHO patient safety standards in Royal Hospital.
2. To evaluate the impact of these standards on key patient outcomes (e.g., hospital-acquired infections, medication errors, patient mortality, length of stay).
3. To identify challenges and barriers in implementing WHO patient safety standards in a tertiary care setting.

Methods

Study Design:

- A mixed-methods study combining quantitative (retrospective patient data analysis) and qualitative (interviews with healthcare professionals) approaches.
- **Study Setting:**
- Royal Hospital, a tertiary healthcare institution in Oman.
- **Study Population & Sampling:**
- Quantitative: Patient records from the hospital's electronic system over the past 3–5 years.
- Qualitative: Healthcare professionals (doctors, nurses, quality officers) involved in patient safety initiatives (purposive sampling).

Data Collection:

1. Quantitative Data:

- Hospital-acquired infections, medication errors, length of stay, mortality rates, readmission rates before and after implementing WHO patient safety standards.

2. Qualitative Data:

- Semi-structured interviews with healthcare staff to explore perceptions of WHO patient safety standards, implementation barriers, and facilitators.

Data Analysis:

- Quantitative: Statistical analysis (e.g., t-tests, regression models) to compare patient outcomes before and after WHO safety standards implementation.
- Qualitative: Thematic analysis of interviews to identify key challenges and enablers.

Results

(Once data collection and analysis are complete, the results will be based on the actual findings. Below is a structured format for reporting anticipated results.)

Quantitative Findings

- Patient Outcome Metrics:
 - A statistically significant reduction in hospital-acquired infections, medication errors, and adverse events after implementing WHO patient safety standards.
 - A decrease in patient mortality rates and length of hospital stay compared to pre-implementation data.
 - Improved adherence to safety protocols, such as hand hygiene compliance and medication reconciliation rates.
- Comparative Analysis:
 - A before-and-after analysis shows measurable improvements in patient safety indicators.
 - Regression models indicate a strong association between WHO safety standards and improved patient outcomes, controlling for confounding variables (e.g., patient demographics, comorbidities).

Qualitative Findings

- Perceptions of Healthcare Professionals:
 - Most participants acknowledge improvements in patient safety culture, better communication, and teamwork.
 - Staff report enhanced confidence in standardized protocols, reducing variability in clinical practice.
- Challenges Identified:
 - Some barriers remain, such as staff workload, resistance to change, and gaps in training on safety protocols.
 - Limited resources and infrastructure challenges affect full implementation.
- Facilitators for Success:
 - Strong leadership support, ongoing staff education, and patient engagement in safety measures were reported as key enablers of success.

Conclusion

This study highlights the positive impact of WHO patient safety standards on patient outcomes in a tertiary hospital setting. The findings suggest:

- Improved Patient Outcomes: The implementation of WHO safety standards is associated with reduced hospital-acquired infections, medication errors, and patient mortality.
- Enhanced Safety Culture: Healthcare professionals report increased adherence to safety protocols and a stronger culture of patient safety.
- Implementation Challenges: While the standards lead to measurable improvements, challenges such as staff workload, resistance to change, and resource limitations need to be addressed.
- Recommendations: To maximize the benefits of WHO patient safety standards, continuous staff training, leadership commitment, and system-wide integration of safety protocols are essential.

Overall, this study provides evidence supporting the continued implementation and reinforcement of WHO patient safety standards in tertiary care hospitals to enhance patient safety and improve clinical outcomes.

Conflicts of interest related to this abstract: None

P-2113

METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) PREVENTION: STRATEGIC TRAINING AND MULTIDISCIPLINARY APPROACH

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Introduction

Methicillin-Resistant *Staphylococcus aureus* (MRSA) represents a major etiologic agent of healthcare-associated infections (HAI) in early childhood because of the vulnerability and still-developing immune system of such patients. Neonatal infections confer an increased risk of short-term morbidity and mortality, as well as adverse long-term outcomes, especially in very immature preterm infants. The spread of MRSA represents a much feared event in the Obstetrics and Neonatology wards. The spread of MRSA is facilitated by the hospital environment, where close contact with patients, the use of invasive medical devices and the failure to apply precautions contribute to a high risk of transmission. Besides, hospitalized neonates are in close contact with healthcare workers, whose MRSA carriage rate seems to be 2–3 times higher than in the general population. To prevent epidemics and minimize the risk of spread, it is essential to adopt an integrated approach that includes evidence-based prevention measures.

Aim/Objective(s)

The prevention and management strategies for the risk of MRSA spread in healthcare settings focus on a combination of active surveillance at the time of ward admission, hand hygiene practices, proper use of barrier precautions, appropriate management of medical devices, and through environmental cleaning. Other measures that can contribute to the prevention of MRSA colonisations or infections include education of healthcare staff, cohorting and isolation of MRSA-positive patients, avoiding ward crowding, and, in some units, surveillance of healthcare workers and visitors. Continuous education of healthcare personnel and the promotion of infection control bundles are key elements of infectious risk management programs for reducing the risk of MRSA transmission in pediatric units, particularly in neonatal care, where newborns are even more vulnerable. This work aims to highlight the central role of specific protocols based on scientific evidence, which should be disseminated through comprehensive training to reach all involved healthcare workers.

Methods

Since 2010, the hospital has implemented an automatic alert system to report microorganisms detected by Microbiology laboratory, enabling continuous monitoring of the epidemiological trends of pathogens across various wards. This structured system includes a surveillance program that involves screening for MRSA at the time of admission to the neonatal pathology unit, using nasal, auricular and pharyngeal swabs. Through this system, an increase in MRSA cases was identified during 2012, 2013 and 2014, affecting the newborn, neonatal pathology and pediatric wards to varying extents. This detection prompted the immediate implementation of containment measures to prevent the spread of MRSA, including environmental disinfection and the development of an organizational protocol, followed by targeted staff training that has been maintained over time. As part of the HAI training initiated in 2024 under the PNRR (National Recovery and Resilience Plan), the infection control bundle was updated and retraining was conducted.

Results

The analysis of data from the alert microorganism reporting system shows a spread of MRSA cases from 2012 to 2014 in inpatient wards of the neonatal and pediatric areas (Figure 2). Although there have been no critical issues for a decade, as a preventive measure and in conjunction with the training required by the PNRR, the specific care bundle for MRSA prevention (Figure 3) has been update and widely disseminated to all staff in the Women's, Childhood, and Adolescent Health Department. The training program includes a general introduction on infectious risk via distance learning (FAD), a 4-hour interactive in-person training session and training on the job. The training on-the-job first included a "Training of trainers" coordinated by the Healthcare Facilities Hygiene Unit staff and the production of paper infographics delivered to the departments in September 2024. Starting from October 2024, these tutors trained their colleagues in the departments with a structured one-hour training on-the-job with a defined ratio of 1 tutor for 5 students. A total of 157 staff members will be trained (80% of the total department staff), involving not only healthcare workers in the newborn unit but also, for example, midwives from the maternity ward (Figure 3).

Conclusion

For prevention and control of MRSA colonisation or infection, the approach adopted by Local Health Trust of Piacenza has

been integrated and multidisciplinary. In our experience, widespread training, structured in an interactive and personalized manner, has significantly improved adherence to specific prevention protocols. The involvement of all healthcare workers has helped reinforce the culture of risk prevention, which has made it possible to drastically limit the spread of MRSA and prevent further transmission. The experience of managing a MRSA outbreak generated positive clinical care behaviours that continued over time and were favored by a multi-professional approach. The management method adopted can be summarized as follows: communication and sharing of critical events, continuous monitoring of the progress of MRSA, creation of a network that shares method and data, establishment of a multidisciplinary group (infectious disease specialist, neonatologist, gynecologist, surgeon, midwife, pediatric nurse and case manager), identification of the appropriate diagnostic-therapeutic operating protocol, hygienic care protocol and correct care behavior. Given the magnitude of the infectious risk and the local epidemiological trend of MRSA, training should be considered one of the key drivers for controlling HAI, not only in response to specific outbreaks but also as a long-term prevention strategy.

Conflicts of interest related to this abstract: none

Figure 1: Geographic distribution of the four Hospitals within the Local Health Trust of Piacenza, with their primary specializations detailed in the boxes. The Women's, Childhood, and Adolescent Health Department is located in the HUB hospital.

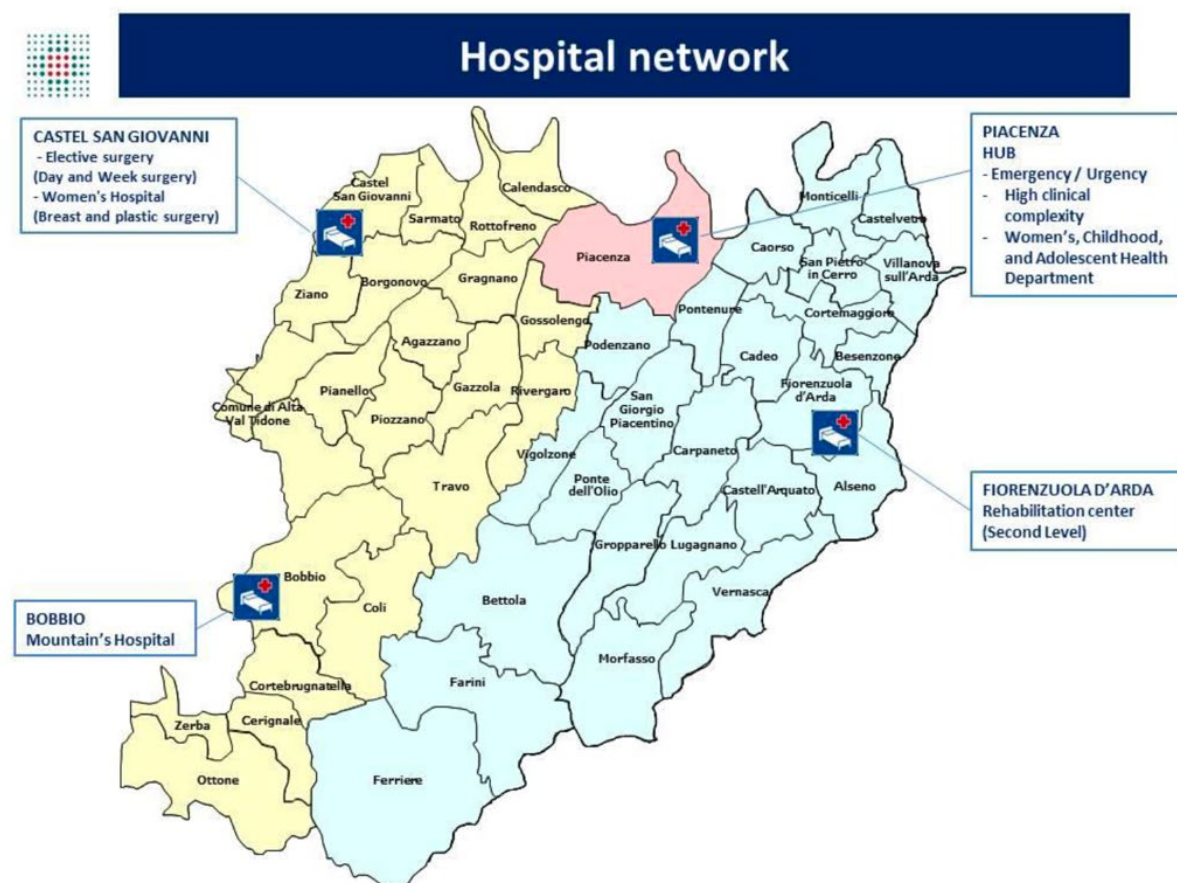


Figure 2: Distribution of MRSA-positive cases in patients under one year of age across inpatient wards (nursery, pediatric unit, neonatal pathology unit) from 2010 to 2024. The peak in total cases occurred in 2012. Before May 2012 and from December 2015 onward, only sporadic cases were detected, falling within an epidemiologically expected range.

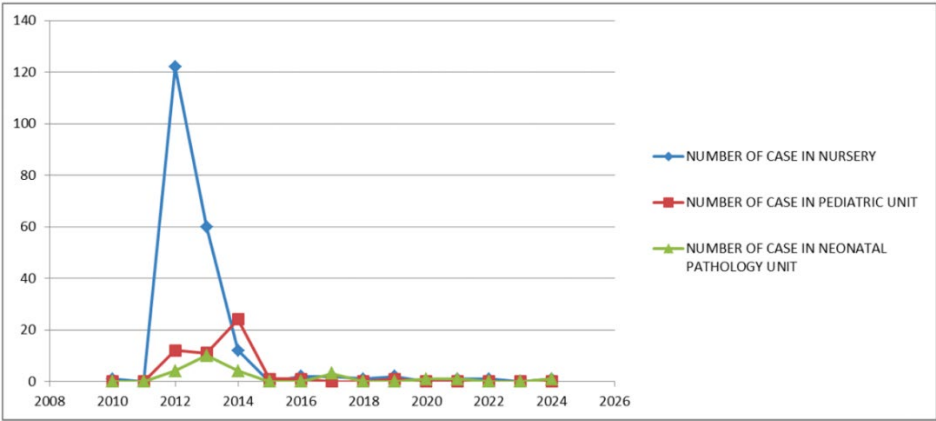
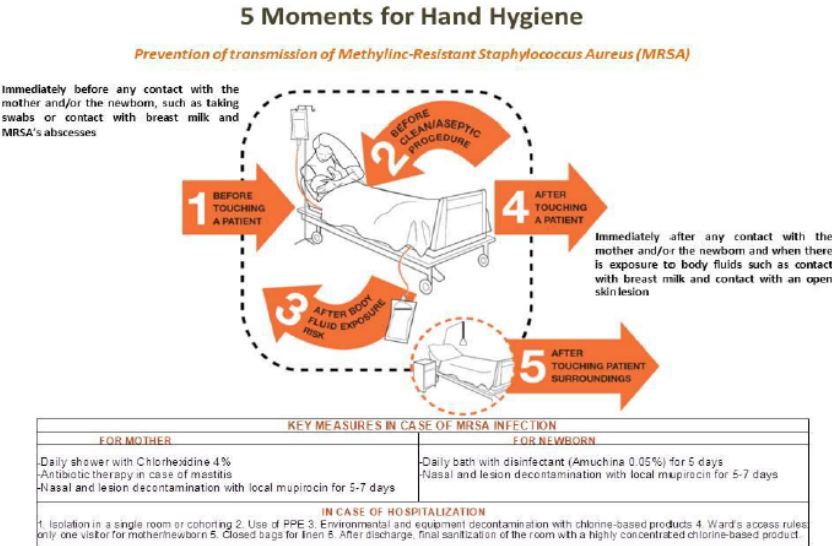
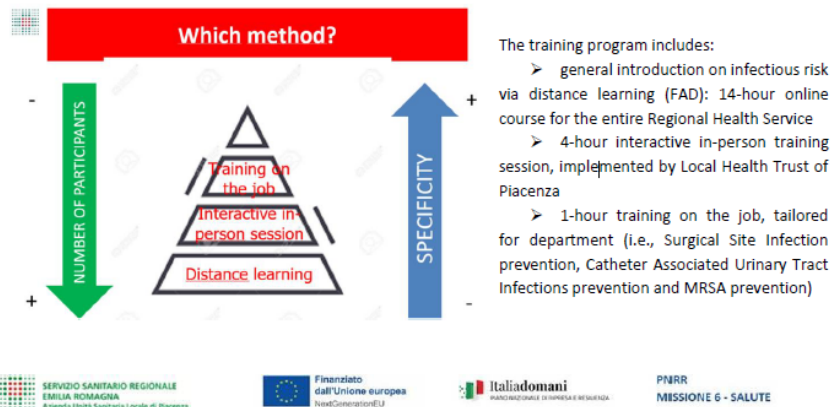


Figure 3: Strategic training for MRSA prevention: retraining method, infographic (updated in 2024) and scheduling.



P-2114**Minimizing incidents' risk levels and levels of harm**

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Introduction

Patient safety is a fundamental aspect of healthcare quality that directly impacts patient outcomes. Shaqra General Hospital (SGH) has embarked on an improvement project aimed at significantly reducing incidents that pose risks and cause harm to patients. This project is driven by the necessity to enhance safety protocols and ensure a safer environment for both patients and healthcare staff. The project was initiated due to an analysis of Occurrence Variance Reports (OVR) from 2023-2024, which highlighted significant risks related to patient incidents like falls, infections, and medication errors. By leveraging systematic analysis, staff training, and the incorporation of electronic systems, SGH is committed to achieving a 40% reduction in the severity incidents by the end of 2024.

Aim/Objective(s)

The objectives of the project includes:

- Actionable recommendations for reducing the incidence and severity of harm in the hospital
- Reduction in the Risk Levels of reported incidents
- Decreased severity and harm of incidents
- Improved staff compliance with safety protocols
- Enhanced hospital safety culture and awareness
- Identify current risk factors contributing to incident occurrences in Shaqra General Hospital
- Implement strategies aimed at reducing incident risk levels by at least 20%
- Decrease harm levels associated with hospital incidents by 40%

Methods

Through the application of the FOCUS-PDCA model, a structured approach to identify, implement and monitor improvements was adopted. The findings underscored the hospital's vulnerability to moderate and high-risk incidents, thus prompting support across departments for collaborative intervention. Incident analysis was the initial step undertaken, followed by multidisciplinary team counseling and sharing of lessons learned. Finally implementation of actions at all levels along with monitoring and evaluation of effectiveness.

Results

The implementation of several key initiatives led to measurable results in incident frequency and severity:

- A 42.25% reduction in the levels of harm incidents reported was observed in 2023 as compared to 2023.
- Despite the challenges faced in increasing incident reporting mechanism, a positive trend was noted with *non-harm incidents rising by 41.3%*, reflecting improved vigilance and reporting culture.
- A 29.6% reduction of incidents' Risk Levels in 2024, without any Extreme Risk Reported.
- Specific categories such as *falls decreased from 0.73% to 0.29% in 2024*, showcasing effective fall prevention strategies.
- *Medication errors also showed significant improvement, decreasing by 15.79%*, attributable to the implementation of electronic medical records that facilitate better access to patient information during prescribing.
- *Infection control related issues reduced from 5.02% to 2.94%.*

Conclusion

The improvement project at Shaqra General Hospital exemplifies a proactive approach to enhancing patient safety through structure planning and execution of interventions. The project's outcomes underscore the importance of continuous monitoring and training within healthcare environments to foster a culture of safety and quality. While significant achievements have been made, ongoing commitment to refining procedures and responding to emerging safety challenges is essential for sustaining the momentum of success. This initiative demonstrates that with effective leadership, collaboration, and data-driven decision-making, hospitals can significantly minimize risks and protect patient well-being.

Conflicts of interest related to this abstract: None

P-2115**Modeling and Forecasting COVID-19 Epidemic PPE Consumption**

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Introduction

The COVID-19 pandemic exposed vulnerabilities in global healthcare supply chains, particularly the availability of Personal Protective Equipment (PPE). Taiwan, having faced the 2003 SARS outbreak, implemented early measures to secure PPE; however, demand surged beyond expectations, leading to shortages. Healthcare workers, at the forefront of the crisis, required PPE such as N95 masks, gloves, gowns, and protective apparel to minimize infection risk. This study explores the relationship between pandemic progression and PPE consumption, using time series analysis to forecast PPE demand. By analyzing PPE usage trends from a medical center, this research aims to improve inventory management and preparedness for future outbreaks, ensuring efficient resource allocation without excessive stockpiling or shortages.

Aim/Objective(s)

Analyze the impact of pandemic progression on PPE demand using medical center data. Apply time series forecasting methods, including ARIMA and GARCH models, to predict PPE consumption trends. Provide recommendations for hospital managers and policymakers to optimize PPE stock levels, balancing cost-efficiency and preparedness. Reduce the risk of PPE shortages during future health crises by establishing predictive inventory strategies. By achieving these objectives, the study contributes to enhanced hospital preparedness, cost savings, and reduced public panic in future pandemics.

Methods

The study is based on PPE consumption data collected from a 1,504-bed medical center from July 2019 to December 2022. Data includes weekly requisition records from different hospital units, classified into high-risk (red zone) and general care (green zone) areas. The research applies time series analysis, utilizing ARIMA and GARCH models to identify trends and forecast PPE demand. The stationarity of the data was assessed using the Augmented Dickey-Fuller (ADF) test, while autocorrelation structures were analyzed through ACF and PACF plots. Model performance was evaluated based on Akaike Information Criterion (AIC), Mean Absolute Error (MAE), and other predictive accuracy measures. The study also examined volatility clustering effects to refine PPE demand projections.

Results

The analysis found that PPE consumption followed pandemic fluctuations, with significant demand surges aligning with COVID-19 outbreak peaks. Key findings include: N95 Masks &

Gowns: Demand was consistent across both red and green zones, influenced primarily by the previous week's consumption. This suggests the need for a one-week advance stock planning approach. Gloves & Protective Apparel: Consumption patterns varied, with gloves in the green zone exhibiting longer volatility persistence compared to the red zone. Short-term shocks significantly impacted demand. Forecasting Models: ARIMA(1,1,0) effectively modeled N95, protective apparel, and gown consumption, while ARIMA(5,2,0)-ARCH models better captured volatility in glove usage. The inclusion of ARCH/GARCH models improved prediction accuracy, particularly in accounting for fluctuations driven by sudden infection spikes. Stock Management Implications: The study suggests weekly monitoring and dynamic adjustments rather than long-term stockpiling, which may lead to wastage or insufficient supply. These findings highlight the necessity of a flexible, data-driven inventory system to mitigate PPE shortages without excessive costs.

Conclusion

This research provides valuable insights into PPE consumption trends during a pandemic, demonstrating the effectiveness of time series analysis for demand forecasting. Key conclusions include:

1. PPE demand is highly responsive to short-term pandemic fluctuations, requiring flexible stock management rather than rigid stockpiling strategies.
2. N95 masks and gowns exhibit predictable weekly demand cycles, allowing hospitals to maintain an optimized one-week stock buffer.
3. Gloves and protective apparel show greater demand variability, necessitating dynamic forecasting models such as ARIMA-ARCH/GARCH.
4. A data-driven inventory approach can reduce procurement inefficiencies, prevent panic-driven shortages, and enhance overall hospital preparedness.

Future research could expand the scope to multiple hospitals, incorporating external supply chain factors such as international PPE production disruptions. Additionally, machine learning models could complement traditional time series analysis for improved accuracy. Policymakers and hospital administrators should integrate these findings into pandemic response plans to ensure resilience against future public health crises.

Conflicts of interest related to this abstract: None

P-2116

Modular Operation theatre satisfying cleanliness, safety for facilities, maintain equipment's, infection control and suitable working environment for medical staff& patients.

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Introduction

Operation theatre is a specialized facility in the hospital where lifesaving and life-improving procedures are carried out on the human body by invasive methods under strict aseptic conditions in a controlled environment to promote healing with maximum safety, comfort, and economy. Modular OTs implemented in Dibba hospital, the project was started on January 2021 and were opened on February 2022 with a capacity of 3 advanced and modern operating rooms equipped with positive pressure system on addition to the air filters to control the airflow system and specific types of air handling units to maximize protection against contaminants to increase the physical patients safety, in addition to that The level of safety from infection is very high,

as the room contain a system that helps in self-sterilization of operating rooms which is UV system. overall, the design is flexible, allowing for easy, comfortable medical staff movement, including specific medical finishes.

Aim/Objective(s)

The main objective for implementing modular operation theatre project is increasing patient operating capacity to be suitable for the number of patients, in addition to reducing the rate of infection spread through installed and use of a positive pressure system which kept at a higher pressure than in corridors and adjacent areas, in addition to HEPA filters and availability of UV sterilizer machines for room self-sterilization which kill more than 99.99% of bacteria and viruses on contaminated surfaces quickly and effectively. furthermore, developing the design to accommodate a different surgical specialty and developed workflow environment by implemented a layout which control and minimize movement, then for enhancing the safety and sterilizing protocol by implemented proper sterilization procedures, waste management process, emergency protocols to ensure a safe environment for both staff and patients. Finally cost reduction because of less maintenance and repairs as they are designed for durability and easy cleaning.

Methods

The project was designed and implemented according to some main following methods: space allocation and layout to minimize movement and cross-contamination while maximizing accessibility to essential equipment and supplies, smooth flow of patients through the surgical process, patient comfort and quick recovery and facility for Proper storage solutions for maintaining a sterile environment such as sterile and non-sterile supplies, staff well-being and productivity such as rest areas, changing rooms, and access to essential resources. Moreover, integrating modern medical equipment in OT for performing advanced surgical procedures. This includes imaging devices, surgical systems, and other specialized tools, using smart technology to enhance surgical precision and efficiency such as automated lighting, temperature control, integrated communication tools, Proper adjustable lighting systems for conducive environment for surgical procedures. Furthermore, maintaining optimal air quality such as HVAC systems, positive pressure for proper ventilation, temperature control and air filtration to prevent infections and ensure patient safety.

Results

As a result of the objectives that were set, some indicators were measured before and after the project implementation. Before 2022, the number of operating rooms was 2 conventional operating rooms, after implementing modular OT, the capacity of the rooms was increased to 3 main standard operations equipped all specialties. As for the indicator of the number of patients, in 2021 before new project implementation was 498 patients because operations rooms small and not sufficient and do not accommodate a large number. However, after modular OT implementation, there was a large number of patients accepted for operations, so due to the availability of the appropriate number of operations, in 2022 the number reached 692 patients and in 2023 it was further to 952 patients, while in 2024 the number reached to 974 patients. As for the spread of infection, new modular operations were designed to reduce infection and as a result there is positive pressure and other systems. The number of infections in the previous operation in 2020-2021 was 3 cases. However, after updating the new operations, the goal was achieved to reach ZERO cases of infection from 2022-2025. This is a strong indication of the success of the project.

Conclusion

The main reason for modular operation theater is for patient safety and easier to install the setup by ensures that all the necessary surgical systems are within arm's reach. Every component of modular operation theatre is made from premium quality materials making them extremely durable. Moreover, advantages of having modular operation theatre in the hospital can outweigh the disadvantages, particularly when it comes to improving infection control, enhancing safety and providing a cost-effective solution for expanding or upgrading surgical capabilities. To summarize the Modular Operation Theatre, it helps Stop the generation of bacteria, Standard occupancy of people and equipment load, Safety standards, Positive air pressure, Appropriate maintenance, Hygienic environment, Proper air ceiling system, Innovative medical workspaces, Special requirements for humidity and ambient temperature, the appropriate number of air change. The safety of the patients is a top priority in the world of healthcare and with a well-equipped Modular Operating Theater a doctor and team can quickly handle emergencies or complications. Over the last few decades Hospitals and medical institutions have been slowly shifting for conventional OT to Modular OT to provide an operating environment with high workability and solve or at least reduce the problem of infections and patient safety.

Conflicts of interest related to this abstract: None

P-2117

Mother's Touch, Baby's Lifeline: Improving neonatal health outcomes through integrated healthcare systems in Gauteng Province, South Africa

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Introduction

Neonatal mortality rate (NMR) is a key indicator for Goal 3 of the Sustainable Development Goals (SDG), with a target of fewer than 12 deaths in the neonatal period for every 1,000 live births by the year 2030. Globally, 2.3 million children died in the first month of life in 2022, with majority of deaths occurring in the sub-Saharan Africa. South Africa had NMR of 12.7 per 1,000 live births in 2022/23. Notwithstanding the national decline, there is great variation by Province, District and facility. TPTH has a consistently high NMR, The leading cause of NMR in the institution is prematurity and infections, which are further attributed to the overcrowding and limited neonatal infrastructure in the hospital. Interventions at this facility have the potential to reduce NMR for the facility as well as the district, province and subsequently the country to attain the SDG.

Aim/Objective(s)

Aim: To evaluate the impact of optimizing existing neonatal infrastructure (KMC beds) in nearby underutilized district hospitals (down-referral) on neonatal services and outcomes.

Objectives:

1. To determine the trend of neonatal admission headcounts; described pre and post implementation of neonatal down-referral initiative at TPTH.
2. To determine the trend of neonatal mortality rate and bed utilization rate, described pre and post implementation of neonatal down-referral initiative at TPTH.
3. To develop recommendations to improve neonatal outcomes for infrastructure-constraints similar hospital settings

Methods

The study focused on a 60-bed neonatal unit at the hospital, which has limited Kangaroo Mother Care (KMC) beds and no

lodger mother facilities. Nearby district hospitals, with underutilized KMC beds, were identified as potential sites for down-referring KMC mother-baby pairs to alleviate overcrowding at TPTH. A Standard Operating Procedure (SOP) was developed to facilitate this referral process, which was implemented in August 2024. The referral included patient transport services, with TPTH neonatologists providing remote telephonic support to staff at the district facilities. Upon discharge from district hospitals, mother-baby pairs were transported back to TPTH for final discharge by the specialist and scheduled follow-up appointments. Data from TPTH registers, the District Health Information System (DHIS), and the Perinatal Problem Identification Programme (PIIP) were collected and analysed to assess the impact of the down-referral initiative before and after its implementation.

Results

Before the implementation of the neonatal down referral initiative, the average daily headcount in the TPTH neonatal unit was 150 babies, which decreased to 110 post-intervention. This reduction led to a lower bed utilization rate, alleviating overcrowding and enhancing the quality of care provided. The bed utilization rate, which averaged 170% per month prior to the intervention, decreased to 150% after implementation. The neonatal mortality rate at TPTH, which averaged 17 deaths per 1,000 live births monthly before the initiative, dropped to 13 deaths per 1,000 live births post-implementation. The total number of neonatal deaths per month decreased from an average of 20 to 15. Additionally, since the initiative's launch, there has been a significant reduction in confirmed neonatal infections within the unit.

Conclusion

This study demonstrates how targeted initiatives can enhance neonatal care services in a tertiary hospital with limited infrastructure, addressing issues of overcrowding and rising neonatal mortality rates. By optimizing underutilized health facilities nearby through strategic integration and resource management, overcrowding in neonatal units at tertiary hospitals can be alleviated, improving both the quality of care and neonatal outcomes. The findings highlight the detrimental impact of overcrowding on service quality and neonatal health, emphasizing the importance of interventions aimed at reducing overcrowding. Such initiatives are vital for low- and middle-income countries to achieve the global Sustainable Development Goals (SDGs) by 2030. The successful implementation of the down-referral system to underutilized, remote facilities illustrates how strengthening health system efficiencies, even in resource-constrained settings, can lead to improved health outcomes and provide a sustainable model for better neonatal care.

Conflicts of interest related to this abstract: None

P-2118

Multidisciplinary collaborative model for fall prevention after sedation procedures: Improving patient safety and clinical outcomes

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Introduction

According to the Korea Institute for Healthcare Accreditation, falls accounted for 46% of patient safety incidents over a five-year period (2017-2022). Falls cause physical and psychological harm while increasing healthcare costs, extending hospital

stays, and potentially leading to litigation. The WHO Global Patient Safety Action Plan 2021–2030 emphasizes "protecting patients from preventable harm." Post-sedation patients face increased fall risks due to temporary cognitive impairment, balance disorders, and blood pressure fluctuations. The General Radiography Department conducts 2,176,175 examinations annually (42,000 per radiologist), with brief examination cycles creating continuous exposure to fall risks. Despite our department's successful fall prevention initiative in 2022, continuing incidents highlighted the need for collaborative prevention strategies with gastroenterology inpatient units, leading to the development of this multidisciplinary collaborative model to enhance patient safety and improve clinical outcomes.

Aim/Objective(s)

This project aimed to maintain the existing radiology department fall prevention measures while achieving the following outcome-focused objectives:

1. Reduce post-sedation fall rates by 30% and decrease injury severity
2. Develop standardized examination protocols based on patient recovery stages and establish safe transfer systems
3. Create practical examination protocols for wheelchair patients and high-fall-risk patients
4. Establish an organization-wide fall prevention culture through multidisciplinary collaboration
5. Build sustainable fall prevention systems through facility and system improvements.

Methods

This multidisciplinary project was conducted from March to September 2023, involving General Radiography Unit 1, Medical Nursing Team 1 (six gastroenterology wards), Gastroenterology Department, Radiology Nursing Unit 2, Administration Department, and Innovation Unit. Using PDCA cycles and fishbone diagram analysis, we identified inadequate patient identification systems (32%), lack of standardized transfer procedures (28%), insufficient interdepartmental information sharing (24%), and other factors (16%) as primary causes. Data collection methods included the following:

1. Evaluation of post-sedation patients in General Radiography Unit 1: Data collection through AMIS 3.0 and patient symptom documentation
2. Assessment of gastroenterology ward staff's fall prevention awareness: Questionnaire survey
3. Survey of patient/guardian perceptions regarding radiographic examinations after sedation procedures

Based on data analysis, we designed and implemented multidisciplinary improvement measures.

Results

Our intervention yielded several significant outcomes:

1. Decrease in high-risk fall patients in collaborative wards from 33.73% to 28.4%
2. 171% increase in bed transfer rates for high-risk patients (from 7% to 26%)
3. 23.2% decrease in ERCP-related falls (from 37.5% to 14.3%)
4. Improved staff awareness and patient safety culture indicators (education and information sharing: 4.38 points, fall prevention systems: 4.19 points)
5. Enhanced patient/guardian fall risk awareness from 3.5 to 4.0 points
6. Reduction in fall-related injuries to one minor harm case, a 50% decrease from the previous year
7. Expansion of developed protocols and educational materials to other radiology units.

Conclusion

This study demonstrated that a multidisciplinary collaborative model effectively reduces fall risk in post-sedation radiography patients, confirming the need for standardized fall prevention protocols consistently applied across examination rooms, wards, and transfer processes. We established a systematic prevention framework using fall precaution armbands and to-do lists for patient identification, data-driven real-time fall risk assessment, and evidence-based "3-hour bed rest, 24-hour fall precaution" guidelines. This model provides an adaptable framework for various healthcare settings and ensures scalability through integration with electronic medical record systems. The project aligns with WHO's "patient-centered care" and JCI's "International Patient Safety Goals," serving as a reference model for global healthcare environments. Future plans include automating interventions linked to sedation procedure orders, strengthening compliance monitoring for standardized processes, and expanding collaborative models to other clinical departments to enhance institution-wide patient safety culture. Although limited by its single-institution design, this project lays groundwork for multi-institutional validation studies and automated intervention system development.

Conflicts of interest related to this abstract: None

P-2119

Multidisciplinary Strategies in Postural Hypotension Care: Experience from the Medicine & Geriatric Department at NTWC

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Introduction

Postural hypotension (PH) is characterized by a significant drop in blood pressure upon standing, leading to symptoms such as dizziness and syncope, which increase fall risk and reduce functional capacity. In hospitals, especially during acute illnesses or prolonged bed rest, these symptoms can worsen, extending hospital stays. Early identification and management of PH are crucial for better patient outcomes. To address this, a PH Management Program was piloted in nine Medicine and Geriatrics (M&G) wards at NTWC, utilizing a multidisciplinary team (MDT) approach and medical-social collaboration (MSC) for comprehensive care and post-discharge support.

Aim/Objective(s)

The program aimed to:

- Alleviate symptoms, maintain functioning, and prevent falls.
- Enhance and standardize PH management.
- Improve post-discharge support through MSC collaboration.

Methods

The program involved a MDT of geriatricians, nurses, physiotherapists, occupational therapists, and dietitians. They implemented intervention protocols promoting early mobilization for patients with PH. Interventions included medication adjustments, exercise prescriptions, fall prevention strategies, dietary modifications, patient education, multidisciplinary rounds, and community linkages. During the pilot phase, patients were screened for orthostatic vitals based on PH symptoms, syncope, dizziness, falls, or PH diagnosis, excluding those requiring bed rest. Custom interventions with a MDT approach were tailored to individual conditions and capacities. Upon discharge, patients received personalized plans and educational materials for self-management, with ongoing support from community resources like District Health Centres (DHC), Geriatric Day Hospitals (GDH), and Integrated Discharge Support

Programs (IDSP). A pre-test vs. post-test trial measured functional outcomes using the Modified Functional Ambulation Classification (MFAC), Elderly Mobility Scale (EMS), and Modified Barthel Index (MBI), along with a symptom questionnaire.

Results

From November 2023 to November 2024, 30 patients (27 males, 3 females; mean age 77.2±10.21 years) were recruited. Results showed that 65.5% improved in mean score by 30.7% on MFAC, 66% improved by 50.7% on EMS scores, and 68.9% improved by 17.2% on MBI. Additionally, 82.7% reported a decrease of mean score by 40% in symptom scores. A significant difference was observed in pre- and post-intervention in MFAC, EMS and MBI with $p < 0.05$. Most patients maintained physical functions, with only 10% experiencing slight declines. No inpatient falls or unplanned admissions related to PH occurred within 30 days and six-months post-discharge.

Conclusion

The program effectively alleviated symptoms, maintained functional capacity, and prevented falls. Feedback indicated increased awareness of fall prevention and improved self-management. Future studies should evaluate long-term outcomes, including hospital stay duration and post-discharge results.

Conflicts of interest related to this abstract: None

P-2120

OK4Pathway: Enhancing Patient Experience and Optimizing Healthcare Journey Through Digital Innovation

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Introduction

In modern healthcare, effective communication between patients and medical teams is crucial to ensuring treatment adherence, reducing complications, and improving health outcomes. However, fragmented information, limited access to clear guidance, and a lack of patient engagement often lead to missed appointments, procedural errors, and avoidable hospital readmissions. At ULS S. José's Urology Department, these challenges are also present in the management of patients, where proper preparation for procedures and post-treatment adherence are essential. Understanding the patient journey and having access to clear, structured information about each step of the care pathway play a key role in improving adherence and enhancing overall patient experience. In collaboration with Lean Health Portugal, the department implemented OK4Pathway, a digital platform designed to improve the patient communication, health literacy, and optimize the care journey. By integrating technology into daily workflows, ULS S. José is advancing towards a more sustainable, patient-centered, and data-driven healthcare system.

Aim/Objective(s)

The primary objective of the OK4Pathway project is to enhance patient communication, health literacy, and treatment adherence through a digital platform. By providing real-time guidance and automated reminders, the solution aims to reduce procedural errors, missed appointments, and hospital readmissions.

At ULS S. José's Urology Department, the project aims to optimize the patient journey by ensuring clear, accessible, and timely information throughout the treatment process. This includes improving pre-procedure preparation, post-treatment follow-up, and overall patient engagement. Additionally, OK4Pathway supports healthcare professionals by optimizing workflows, reducing administrative burdens, and enhancing operational efficiency. The initiative also contributes to sustainability efforts by minimizing unnecessary hospital visits and paper-based communication. Ultimately, the project aims to create a more patient-centered, efficient, and environmentally responsible healthcare experience.

Methods

The methodology involved a patient-centered design approach, ensuring that the platform addressed real-world challenges in the patient journey. Participants included urology patients undergoing cystectomy and radical prostatectomy, as these procedures require strict preoperative preparation and post-treatment adherence. A phased rollout was conducted, with initial pilot testing to assess usability and effectiveness. The platform is designed to be customizable for other clinical conditions, allowing future scalability. Data collection involved designing the patient pathway and gathering educational materials, such as videos, flyers, and interactive content, to support patient understanding. Additionally, PROMs (Patient-Reported Outcome Measures) and PREMs (Patient-Reported Experience Measures) were collected through questionnaires and surveys to evaluate patient satisfaction and treatment effectiveness. Adherence tracking and healthcare provider insights were also analyzed to assess the impact on missed appointments, procedural preparation, and post-treatment follow-up.

Results

The implementation of the OK4Pathway project has resulted in significant improvements in patient experience, operational efficiency, and sustainability. Patients can report greater satisfaction due to the platform's ability to provide real-time access to information, ensuring they feel more informed and supported throughout their care journey. The availability of interactive educational materials has contributed to a better understanding of procedures and treatments, reinforcing patient engagement and adherence. Automated reminders and personalized follow-ups can play a crucial role in ensuring that patients are adequately prepared, minimizing last-minute schedule disruptions. This can directly improve hospital efficiency, optimizing resource allocation and reducing administrative burdens on healthcare professionals. Furthermore, the project aims to align with sustainability goals by decreasing the need for unnecessary hospital visits through digital consultations and reducing paper waste with the adoption of electronic documentation. This shift towards a more environmentally friendly approach supports the broader aim of creating a more sustainable healthcare system. Overall, the OK4Pathway project has the potential to demonstrate a positive impact on patient care, hospital efficiency, and environmental responsibility, reinforcing the benefits of integrating digital solutions into healthcare pathways.

Conclusion

The implementation of the OK4Pathway project has resulted in significant improvements in patient experience, operational efficiency, and sustainability. Patients can report greater satisfaction due to the platform's ability to provide real-time access to information, ensuring they feel more informed and supported throughout their care journey. The availability of interactive educational materials has contributed to a better understanding of procedures and treatments, reinforcing patient engagement and adherence. Automated reminders and personalized follow-

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Conflicts of interest related to this abstract: None

P-2121

One" press" get "more easily" ! ~Utilizing Information Technology to Improve drug delivery efficiency.

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Introduction

The drug delivery process starts with the doctor prescribing the drug, the pharmacist reviews the drug according to the doctor's order, and the nurse gives the drug according to the doctor's order. Nursing staff need to take time to contact the pharmacy and the delivery man during the process. Drug delivery time affects the immediateness of the nursing staff and increases the workload; therefore, the Automated Dispensing Cabinets (ADC) system is introduced.

Aim/Objective(s)

To explore the effects of implementing a Automated Dispensing Cabinets (ADC) system on medication work of nurse.

Methods

1. First, the pharmacy selects 80% of the commonly used drugs in the unit and places them in the ADC. After that, the drug usage is reviewed every 3 months and the drug items are adjusted.
2. Establish a nursing staff information network and fingerprint data.
3. When the doctor writes a prescription on the computer, the pharmacist will complete the review of the prescription within 10 minutes. Afterwards, the nursing staff can enter the ADC by pressing the fingerprint to confirm their identity, and then pick up the medicine according to the ADC instructions.
4. Use questionnaire survey to investigate the impact of introducing ADC system on nursing clinical work.

Results

ADC was implemented in 2020. This study used a questionnaire survey, and the results showed that:

1. Reduce drug delivery. After the pharmacist reviews the drug list, the nursing staff only needs 58.8 seconds to pick up the medicine, which improves the immediacy of the nursing staff.
2. After the introduction of ADC, the management process was simplified and the nursing staff's satisfaction with ADC reached 82.5%.
3. According to statistics, there were four medication errors from 2020 to 2024, and the type of error was dosage error. ADC data is synchronized with the electronic medical record system, and nurses can take out medicines according

to the doctor's orders displayed on the ADC, thereby improving staff's recognition of medicines.

Conclusion

Patient safety is the highest priority at this hospital. This study adds information about how nurses can more easily and correctly obtain patient medicines through information technology. And without doubt, the system can improve efficiency and safety for patients.

Conflicts of interest related to this abstract: None

P-2122

OPTIMAL USE OF ANTICOAGULANT ENOXAPARIN BARCODE

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Introduction

The need to reduce medication errors during Enoxaparin administration, an anticoagulant used to prevent and treat blood clots, prompted this project. Anticoagulants like Enoxaparin are high-risk medications that can lead to serious adverse events, such as uncontrolled bleeding or clot formation, if not administered properly. Studies and hospital incident reports highlight common issues like dosing errors, incorrect patient identification, and timing mistakes, often due to manual processes and communication failures. Despite its widespread use, there is a significant gap in ensuring the safe administration of Enoxaparin. The complexity of anticoagulation therapy increases the risk of errors, especially in high-pressure healthcare settings. Barcode scanning technology has proven effective in enhancing medication safety by ensuring accurate patient education, correct dosing, and timely administration. Implementing a barcode system for Enoxaparin aims to reduce human error, improve patient outcomes, and promote best practices in medication safety.

Aim/Objective(s)

This project aims to improve patient safety by reducing medication errors during Enoxaparin (a widely used anticoagulant) administration using barcode technology. Accurate dosing and administration are essential to prevent complications like bleeding or thrombosis. Over 12 months, the project will focus on planning (3 months), implementation (6 months), and evaluation (3 months).

Methods

1. Stakeholder Engagement:

- Healthcare Providers.
- Clinical Audit Team.
- Hospital Administrators.
- Patients and Families.

2. Project Implementation:

Planning Phase: A multidisciplinary team including nurses, pharmacists, clinical audit members, and physicians developed the scope and protocols.

Training Sessions.

Barcode Integration.

3. Monitoring and Feedback:

PDSA Cycles: The Plan-Do-Study-Act framework was used to monitor and adjust the project's progress.

4. Patient Engagement and Education.

The goal is to improve patient safety by reducing medication errors through effective barcode use, enhancing patient education, and ensuring adherence to Enoxaparin therapy.

Results

The impact extends for This project resulted in providing barcode-based medication consultations from 95 patients in the Obstetrics and Gynecology Department in 2023 to more than 280 patients in 2024. From a broader healthcare perspective, this project can contribute to significant cost savings by reducing complications associated with incorrect enoxaparin administration or not use it, such as prolonged hospital stays or the need for additional interventions. Standardizing enoxaparin administration through barcode scanning can also facilitate better adherence to clinical guidelines, enhancing the overall quality of care.

Conclusion

The project introduces a creative approach to medication safety. By integrating barcoding technology with clinical workflows, it enables real-time verification of the drug's identity, and timing before administration. This ensures that healthcare providers can confirm adherence to proper anticoagulant protocols, reducing the risk of overdose or underdose. Moreover, the project capitalizes on track patients by scheduling their appointments at the drug consultation clinic via Anat, to continuously monitor and improve results, creating a seamless and efficient method to medication administration. It enhances traceability, accountability, and auditing capabilities in healthcare settings, providing a robust layer of security for patient safety. This novel integration represents a forward-thinking step in leveraging technology to advance the quality and safety of anticoagulant therapy.

Conflicts of interest related to this abstract: None

P-2123

Optimizing Anticoagulation Therapy in Saudi Arabia: The Evaluation of Pharmacist-Led Interventions on Physician Acceptance and Patient Care.

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Introduction

Anticoagulation therapy is pivotal in the prevention and treatment of thromboembolic diseases, from atrial fibrillation to venous thromboembolism. In recent years, Anticoagulation Stewardship Programs (ASPs) have emerged as strategic frameworks for enhancing the safety, efficacy, and quality of anticoagulation management through interdisciplinary collaboration, particularly integrating pharmacists into the care team. Implementation of ASPs in Saudi Arabia is essential in addressing the unique challenges posed by patient demographics, healthcare infrastructure, and clinical practice norms within the Kingdom. Furthermore, with the country's healthcare system undergoing significant reforms aimed at achieving the goals of the Vision 2030 plan, enhancing patient safety and care quality through specialized programs like ASPs has become a priority. Nonetheless, despite the recognized importance of effective anticoagulation management, there remains a lack of comprehensive data evaluating the outcomes of ASPs in the Middle Eastern context, particularly in terms of pharmacist-led interventions and acceptance of those interventions by physicians.

Aim/Objective(s)

This study aims to fill that gap by providing in-depth analysis of an ASP in Saudi Arabia, focusing on the nature and acceptance of pharmacist interventions within anticoagulation therapy management. Through analysis of intervention type and subsequent acceptance by physicians, we seek to elucidate pharmacist impact on anticoagulation therapy, highlight potential areas for improvement in the collaborative care model, add to the body of evidence supporting ASP efficacy, and ultimately inform the ongoing efforts to optimize anticoagulation management in Saudi Arabia and beyond. Study Design: This multicenter, retrospective analysis was conducted from January to December 2023 across Ministry of Health (MOH) hospitals that implemented the Anticoagulation Stewardship Program (ASP). Pharmacists were requested to record data for patients enrolled in the ASP during the study period, and extracted comprehensive data from medical records, also noted whether pharmacist interventions were accepted by physicians and the patient management protocols, with reference to both national and international guidelines adopted by the hospital. To ensure data integrity and privacy, participants were assigned numeric identifiers, the database was password-protected, and access was limited to investigators who had completed confidentiality agreements. Descriptive statistics and binary logistic regression analyses were used to categorize interventions and evaluate their acceptance.

Results

The 8,840 participants in the study population exhibited a well-balanced gender distribution. In terms of age, a wide range was represented, with a slight majority of participants being at least 55 years old. The regional representation was also extensive, and included key areas like Riyadh and Mecca. Among medications employed in anticoagulant therapy, Enoxaparin was the most frequently used. Of the patients in this study, 61% were prescribed an appropriate anticoagulation regimen reflecting general adherence to the established anticoagulation guidelines. Our logistic regression of factors influencing regimen appropriateness identified age and specific diagnoses as significant predictors, while gender showed no substantial impact. Regarding the geography of regimen appropriateness, we observed a range of outcomes across cities, illustrated. Riyadh exhibited the highest number of appropriate regimens. A regression analysis was performed to identify significant predictors of pharmacist interventions in the context of inappropriate anticoagulation regimens. This revealed age to be a significant predictor of dose Adjustment. The appropriateness of anticoagulation regimens also varied across age groups with the total number of appropriate regimens increasing as patient age increased. Analysis of physician responses to pharmacist recommendations showed that for the subset of patients requiring intervention (38.8%), an impressive 96.1% of recommendations were accepted.

Conclusion

The results underscore the pivotal role of pharmacists in enhancing patient care through improved anticoagulation management. Although the study did not directly assess intervention impacts on patient outcomes, the high rate of physician acceptance suggests a strong foundation for interdisciplinary collaboration. However, the findings also highlighted geographic and departmental variability, indicating gaps that could be closed to improve patient care. Moreover, this work lays an important foundation for future investigations to explore the direct effects of pharmacist interventions on patient outcomes, and ultimately to solidify the pharmacist's role in anticoagulation therapy management within the dynamic and evolving healthcare landscape of Saudi Arabia.

Conflicts of interest related to this abstract: none

P-2124**Optimization of Daily Quality Assurance for Proton Therapy: Development of a Innovative Compact and Efficient QA Instrument**

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Introduction

Daily QA for proton therapy equipment is a crucial process ensuring precise machine operation, patient safety, and treatment effectiveness. It is also a mandatory requirement under both Taiwanese and international medical regulations. Currently, our department utilizes the Sphinx phantom by IBA for daily QA. However, its large size and dispersed components create significant challenges, especially for smaller staff members. The device's heavy weight and bulkiness make it difficult to transport, posing a risk of machine damage due to collisions. Consequently, staff members perceive the daily QA process as an onerous task, leading to reluctance in performing this essential duty.

Aim/Objective(s)

We aim to enhance the efficiency and safety of daily quality assurance through process optimization or the introduction of new equipment. By streamlining workflows and adopting improved technologies, we seek to reduce staff workload, improve operational efficiency, and decrease QA time by 50%. Additionally, minimizing handling difficulties and transport risks will help create a safer work environment while ensuring compliance with quality and safety standards. Ultimately, these improvements will enhance both workplace morale and overall treatment effectiveness, benefiting both staff and patients.

Methods

We used a custom-built device to reduce its size, thereby minimizing workload and shortening operation time. The equipment we decided to utilize was originally for photon daily quality assurance, combined with a custom-built phantom, to modify the thickness and positional characteristics of the test. By varying thickness and position, we aimed to generate an optimized daily quality assurance treatment plan for proton therapy. The CT images of the custom phantom was acquired and then created a verification treatment plan in the treatment planning system. The phantom was subsequently placed on the proton therapy machine, where we validated whether the measured results matched the expected outputs from the treatment plan. Additionally, gold markers were embedded in the custom phantom to facilitate position verification before dose and output measurement. This approach allowed us to simultaneously assess the accuracy of the image guidance system while ensuring precise dose verification.

Results

The newly developed QA instrument successfully reduced daily QA time from 1 hour to just 20 minutes. Furthermore, its size was reduced to one-fifth of the original device, significantly alleviating physical strain and transport difficulties for staff members. Following training and continued education, all personnel were able to complete the QA process within the reduced timeframe while maintaining the same detection capability as the original instrument.

Conclusion

This breakthrough in QA optimization demonstrates that a well-designed, compact QA tool can significantly improve workflow efficiency and staff satisfaction without compromising quality. Establishing a standardized operating procedure (SOP) for this

new device ensures sustainability and effective knowledge transfer to future personnel. Our findings highlight the importance of technological advancements in streamlining clinical operations and maintaining high-quality patient care in proton therapy.

Conflicts of interest related to this abstract: None

P-2125**Optimizing Antibiotic Stewardship: Reducing Azithromycin Overuse in Pediatric Ambulatory Care**

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Najran Health Cluster, Saudi Arabia

Introduction

The inappropriate prescription of Azithromycin suspension in ambulatory pediatric care at Maternity & Children's Hospital, particularly within emergency and outpatient departments, has emerged as a critical concern. Baseline data collected from October 1, 2022, to June 30, 2023, revealed a significant prevalence of non-indicated use, primarily for viral infections and non-recommended bacterial respiratory conditions. This practice not only compromises patient safety but also exacerbates the global challenge of antibiotic resistance. In response, a Quality Improvement (QI) project was initiated on July 1, 2023, with the objective of achieving a 70% reduction rate in inappropriate prescriptions over one year. Leveraging the Plan-Do-Check-Act (PDCA) methodology, the project sought to optimize antimicrobial stewardship, enhance clinical decision-making, and promote evidence-based prescribing practices. By addressing systemic inefficiencies and fostering interdisciplinary collaboration, the initiative aimed to mitigate resistance risks, improve patient outcomes, and align with international standards for antibiotic use.

Aim/Objective(s)

The primary objective of this initiative was to significantly reduce the inappropriate prescription of Azithromycin suspension in ambulatory pediatric care at Maternity & Children's Hospital. The aims of the project are the following:

1. Attain a 70% reduction rate in inappropriate Azithromycin prescriptions within a one-year timeframe.
2. Mitigate the escalating threat of antibiotic resistance by curbing the misuse and overuse of Azithromycin.
3. Reinforce the hospital's Antibiotic Stewardship Program through strict adherence to evidence-based clinical guidelines.
4. Elevate awareness among physicians, pharmacists, and nurses, regarding the appropriate indications for Azithromycin and the imperative of guideline compliance.
5. Foster interdisciplinary collaboration and communication to optimize prescribing practices and ensure cohesive patient care.
6. Enhance medication inventory management to ensure the availability of effective alternatives for respiratory infections.
7. These objectives were to optimize antimicrobial utilization, minimize unnecessary treatment, and elevate patient care standards while addressing the pervasive issue of antibiotic resistance.

Methods

The project employed the Plan-Do-Check-Act (PDCA) methodology to address inappropriate Azithromycin prescribing. During the Plan phase, a multidisciplinary team analyzed prescribing patterns using data from approximately 1,523 prescriptions

monthly, including electronic prescriptions and clinical documentation. In the Do phase, interventions included:

- Real-time prescription audits: Pharmacists and nurses flagged non-indicated Azithromycin orders daily.
- Feedback mechanisms: Physicians received prompt feedback with evidence-based alternatives.
- Nurse-led patient education: Nurses educated caregivers on antibiotic risks and appropriate use.
- Quarterly prescribing reports: Progress was tracked, and improvement areas identified.

Training and education were provided to 427 healthcare professionals, and orientations were conducted for approximately 145 staff members to ensure adherence to clinical guidelines. The Check phase involved continuous data collection and analysis, while the Act phase refined interventions based on insights. The project spanned in one year from July 1, 2023, to June 30, 2024, with progress evaluated through iterative assessments and adjustments.

Results

Baseline monitoring from October 1, 2022, to June 30, 2023, identified a high prevalence of inappropriate Azithromycin prescriptions, prompting the establishment of a 70% reduction rate target. Baseline was 24.16% reduction rate by June 30, 2023, building on an initial reduction rate of 11.56% in October 2022. Following the project's formal implementation on July 1, 2023, the reduction rate progressively improved, reaching 68.27% by February 29, 2024. This success was driven by robust feedback mechanisms, stringent monitoring protocols, and the pivotal role of nurses in patient education and follow-up. By June 30, 2024, the target was not only achieved but exceeded, with a final reduction rate of 71.28%. Key contributors to this outcome included continuous professional development, enhanced monitoring systems, optimized medication stock management, and the unwavering commitment of the multidisciplinary team. These results underscore the project's efficacy in optimizing Azithromycin utilization, reducing unnecessary prescriptions, and mitigating antibiotic resistance risks. The sustained improvements highlight the transformative potential of structured quality improvement initiatives in advancing clinical practices and patient outcomes.

Conclusion

The Quality Improvement project successfully achieved its objective of attaining a 71.28% reduction rate in inappropriate Azithromycin prescriptions in ambulatory pediatric care at Maternity & Children's Hospital by June 30, 2024. By employing the Plan-Do-Check-Act (PDCA) methodology, the initiative emphasized continuous education, evidence-based prescribing, and rigorous monitoring. A multifaceted strategy, integrating educational interventions, systemic enhancements, and interdisciplinary collaboration, was instrumental in driving this success. The active engagement of nurses in patient education and follow-up further reinforced adherence to appropriate prescribing practices. These advancements not only enhanced clinical decision-making but also significantly reduced the risk of antibiotic resistance. Although the project concluded on July 1, 2024, its strategies and insights will inform ongoing efforts to optimize antimicrobial stewardship. Sustaining these achievements will necessitate persistent monitoring, periodic updates to clinical protocols, and sustained collaboration among healthcare teams. This initiative has fortified the hospital's Antibiotic Stewardship Program, elevated patient care standards, and contributed to global endeavors to combat antibiotic resistance, establishing a benchmark for future quality improvement initiatives in healthcare.

Conflicts of interest related to this abstract: None

P-2126

Optimizing Emergency Patient Flow: Reducing Door-to-Disposition Delays for Enhancing ER Efficiency.

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Introduction

Emergency departments has faced significant challenges in delivering high quality and timely patient care on an ever-present background of increasing patient numbers and limited hospital resources. Benchmark for Door to Disposition in ER is 85% and above. In our Emergency department, we have a high percentage of non -urgent patient up to 70% which lead to congestion of ER Department and resulted to long waiting time and delay for urgent cases which are in need of a more focused care.

Aim/Objective(s)

Our main objectives are to:

- To Reduce patient crowding in ER.
- To Improve door-to-disposition time.
- To Enhance the quality of care and create a safe, efficient, and timely admission process.
- To improve patient satisfaction by improving timeliness of ward disposition.
- To improve timeliness of patient care
- To improve patient outcome
- To improve operational efficiency in ER
- To improve patient satisfaction
- To improve patient safety

Methods

The improvement project began with forming a multidisciplinary team, prioritizing high-risk, high-volume, high-cost, and problem-prone areas. The ADAA KPI of "door to disposition >4 hours" was analyzed using baseline data, PDCA cycles, and flowcharting. Data sources included the Oasis System and ADAA Program, focusing on the number of patients seen within 4 hours in 2023.

Key strategies included assigning ER pediatric consultants during peak hours to expedite care, triaging level 3 CTAS patients in clinics to reduce bed wait times, and ensuring staff promptly closed visits in the Oasis System upon discharge. A dashboard alert system was introduced to notify staff when patients were in the grey zone (2–4 hours), prompting timely action.

Further improvements included increasing ER beds from 13 to 23, opening a boarding area, optimizing triage processes, fixing the ER dashboard, and increasing staff. These measures improved patient flow, reduced waiting times, and enhanced ER efficiency.

Results

By activating our vision, clinical triage, and sending non-urgent cases to Primary Health Center, we increased the percentage of Door to Disposition in ER from 80.7% in the year 2023 to 89.5% in 2024. Hospital Administration provided ER with some nursing staff, which led to facilitating the care provided to patients in a proper time, increasing the rate of door-to-disposition within 4 hours.

Organization & Role in ER

- Organization plays an important role in facilitating the services delivered to atients.
- This highlights the importance of the presence of an ER Supervisor in every shift.

By doing so, data showed that which was collected during 2024, the average rate of patients seen within 4 hours from door to disposition is 89.5% (a quarterly rate of 89.9%, 88.6%, 87.3% and 93.8% respectively).

Conclusion

The current study indicates that during the year 2023, MCH Najran has an average rate of 80.7% of patients seen within 4 hours from door to disposition. This indicates that there was about 19% of emergency patients seen and disposed more than 4 hours, which have affected the patients with high acuity that resulted in the delay in receiving the appropriate and adequate care needed. However, after the emergency project implementation, there was significant improvement in the year 2024, the rate was 89.5%. This achievement is a result from the combined efforts done by the concerned staff from emergency department (Nurses and Doctors and the Medical and Hospital Administration). MCH emergency department continue to maintain the gain and aims to achieve the target to increase the rate of door to disposition by the year 2025 to >90%.

Conflicts of interest related to this abstract: None

P-2127

Optimizing gallbladder surgery: Reducing waiting times through a one-stop clinic model for improved patient care.

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Introduction

Gallbladder diseases are prevalent and often require surgical intervention for effective treatment. In our healthcare system, lengthy waiting times for surgery can lead to complications and diminished patient satisfaction. In 2022, the average waiting period from diagnosis to surgery was 23 days, highlighting inefficiencies in care delivery. Recognizing the urgent need for improvement, our hospital initiated the development of a one-stop clinic for gallbladder surgeries. This innovative model aims to streamline processes, enhance communication among healthcare providers, and ultimately reduce patient waiting times. By providing a centralized location for diagnosis, consultation, and surgery, we aspire to improve patient outcomes and create a more responsive healthcare environment. Our goal is to reduce the current waiting time to a target of 14 days, thereby enhancing overall patient experiences and outcomes in gallbladder management.

Aim/Objective(s)

The primary aim of this project is to establish a one-stop clinic for gallbladder surgeries that significantly reduces the waiting time from diagnosis to surgical intervention. Specific objectives include:

1. Streamline Processes: Implement integrated workflows that enhance coordination between diagnostic, consultative, and surgical services within the clinic.
2. Reduce Waiting Times: Achieve a target waiting time of 14 days by optimizing patient flow and resource allocation.
3. Enhance Patient Satisfaction: Improve the overall patient experience through timely access to care and effective communication.
4. Monitor Outcomes: Assess the impact of the one-stop clinic model on clinical outcomes and patient satisfaction by collecting and analyzing relevant data.
5. Sustain Improvements: Develop strategies for ongoing evaluation and refinement of the clinic's processes to maintain and further enhance efficiency in gallbladder management.

Methods

This project employed the Plan-Do-Study-Act (PDSA) methodology. Plan: We identified the need to reduce waiting times and improve patient satisfaction. A multidisciplinary team was formed to design the clinic model, outlining workflows for integrated diagnostic, consultative, and surgical services. Do: The

one-stop clinic was implemented with a pilot group of patients diagnosed with gallbladder-related conditions. Participants were selected through convenience sampling, focusing on those referred for surgical evaluation. Study: Data collection involved pre- and post-implementation patient waiting time records and satisfaction surveys. The average waiting time was tracked, and patient feedback was analyzed to evaluate the effectiveness of the new model. Act: Based on the analysis, we made iterative adjustments to the clinic processes, such as refining appointment scheduling and enhancing communication among healthcare providers. Continuous monitoring and feedback loops were established to ensure ongoing improvements and sustain the positive outcomes of the initiative.

Results

The implementation of the one-stop clinic for gallbladder surgeries resulted in significant improvements in patient care and operational efficiency.

- Patient Volume: In 2022, the clinic served 116 patients. In 2024, this number increased to 191 patients, representing a 64.7% increase.
- Waiting Time: The average waiting time decreased from 23 days in 2022 to 9 days in 2024, marking a 60.9% reduction.
- Patient Satisfaction: Positive feedback from patients rose from 60% in 2022 to 85% in 2024, indicating a *41.7% increase* in satisfaction levels.
- Surgical Throughput: The clinic model led to a 30% increase in surgical throughput, allowing more patients to receive timely treatment.

Overall, the project not only enhanced patient experiences but also optimized resource utilization within the healthcare system, demonstrating the effectiveness of integrated care models in surgical pathways.

Conclusion

The establishment of a one-stop clinic for gallbladder surgeries has profoundly addressed the critical issue of lengthy waiting times in our healthcare system. By reducing the average waiting period from 23 days to just 9 days, we have not only improved patient outcomes but also enhanced overall satisfaction. This innovative model exemplifies how integrated care can streamline processes, foster collaboration among healthcare providers, and optimize resource allocation. The findings from this project contribute significantly to health service improvement by providing a scalable framework for similar interventions in other surgical pathways. The positive outcomes underscore the necessity for policies that support centralized care models, which can lead to more efficient healthcare delivery and better patient experiences. Moreover, this initiative lays the groundwork for future research into the long-term effects of such models on clinical outcomes and healthcare costs. By demonstrating the effectiveness of the one-stop clinic approach, we advocate for its adoption across various specialties, potentially transforming surgical care practices and contributing to broader healthcare reforms aimed at enhancing patient-centered care.

Conflicts of interest related to this abstract: none

P-2128

Optimizing Inflammatory Bowel Disease (IBD) Care in the UAE: Addressing Gaps Through Multidisciplinary ExcellenceDr Maryam Alkhatry Consultant Gastroenterology*Ibrahim ObaidAllah Hospital, UAE***Introduction**

Inflammatory Bowel Disease (IBD) presents significant healthcare challenges due to its chronic nature, complex treatment pathways, and high burden on patients and healthcare systems. The UAE lacks standardized, multidisciplinary IBD care models, leading to delayed diagnosis, inconsistent treatment strategies, and variable access to biologic therapies. The IBD Excellency Center at IBHOH & OGH Gastroenterology Department was established to bridge these gaps by implementing evidence-based treatment pathways, early diagnosis protocols, and multidisciplinary collaboration, including gastroenterologists, surgeons, IBD nurses, and dietitians. This initiative integrates AI-driven dysplasia assessment, proteomics-guided therapy selection, and structured patient education to enhance treatment precision and outcomes. This study evaluates the impact of a comprehensive IBD management framework on patient outcomes, treatment accessibility, and quality of care in the UAE.

Aim/Objective(s)

- Identify gaps in IBD management, including delays in diagnosis, limited access to biologics, and inconsistent multidisciplinary care.
- Evaluate the impact of a structured IBD treatment pathway on early diagnosis, treatment optimization, and patient outcomes.
- Assess the role of multidisciplinary care teams, including IBD nurses, surgeons, pathologists, and dietitians, in improving patient-centered management.
- Investigate the utility of AI-based dysplasia assessment and proteomics-driven therapy selection in IBD treatment.
- Develop an integrated care model that enhances treatment efficiency, reduces hospital visits, and improves long-term disease control.

Methods

A retrospective and prospective cohort analysis was conducted at the IBD Excellency Center, IBHOH & OGH Gastroenterology Department, evaluating patients diagnosed with IBD between 2020–2024. The methodology included:

- Data analysis from electronic medical records assessing time to diagnosis, treatment initiation, and therapy effectiveness.
- Evaluation of access to biologic treatments before and after implementing a structured IBD pathway.
- Multidisciplinary team (MDT) impact assessment through patient outcomes, complication rates, and hospital readmissions.
- Integration of AI-based dysplasia screening to assess its effectiveness in detecting early neoplastic changes.
- Comparative analysis of proteomics-guided therapy versus standard treatment in personalized IBD management.

Results

Key findings demonstrated significant improvements in IBD care following the implementation of a structured treatment pathway:

- Time to diagnosis reduced by 35%, with faster access to endoscopy and imaging.
- Early biologic therapy initiation increased by 42%, improving disease remission rates.

- Multidisciplinary team interventions reduced hospitalizations by 27% and improved treatment adherence.
- AI-driven dysplasia assessment increased early detection of precancerous lesions by 30%, enabling timely intervention.
- Proteomics-based therapy selection optimized treatment response rates, reducing steroid dependency and therapy failure.

These findings highlight the effectiveness of structured, multidisciplinary IBD care models in enhancing patient outcomes and resource utilization.

Conclusion

The IBD Excellency Center has demonstrated that a standardized, multidisciplinary approach can significantly improve IBD patient care, reduce hospital admissions, and enhance early treatment access. By integrating IBD nurses, gastroenterologists, surgeons, and AI-driven diagnostic tools, patient outcomes have been substantially optimized. The use of AI-based dysplasia assessment and proteomics-driven therapy selection offers a novel, precision-medicine approach to IBD treatment, reducing the risk of complications and improving therapy success rates. The success of this model suggests a need for UAE-wide adoption of structured IBD pathways, integrating advanced diagnostics, biologic therapy optimization, and MDT-driven care. Future directions include expanding AI and digital health solutions for real-time disease monitoring and scaling this model to other hospitals in the UAE to ensure consistent, high-quality IBD management nationwide.

Conflicts of interest related to this abstract: None

P-2129

Optimizing Patient Pathways in Rehabilitation: A Practical Implementation at Geneva University Hospitals

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Introduction

The complexity of modern hospital care demands innovative approaches to patient management, particularly in rehabilitation services. At HUG, an increasing number of chronic and geriatric patients require specialized rehabilitation programs to enhance recovery and reduce unnecessary hospitalization. The diversity of medical needs necessitates an optimized patient pathway system to ensure timely and appropriate care. In response to these challenges, HUG has implemented a structured patient flow management model, emphasizing early transfers, goal-oriented rehabilitation, and interdisciplinary collaboration. By streamlining admissions, treatment, and discharge planning, this initiative aims to improve efficiency, minimize healthcare costs, and enhance patient outcomes. This abstract presents the practical implementation of HUG's rehabilitation pathway optimization, detailing the systematic approach to patient categorization, transfer mechanisms, and specialized care units. The findings contribute to best practices in hospital rehabilitation management and provide insights for healthcare institutions seeking to refine their patient flow strategies.

Aim/Objective(s)

The primary aim of this initiative was to optimize rehabilitation pathways at HUG by ensuring that patients receive the right level of care at the right time, minimizing unnecessary hospital stays while maximizing functional recovery. The secondary objectives included:

1. Improving Patient Flow: Establishing a structured transfer system to reduce inefficiencies and delays in rehabilitation services.
2. Enhancing Interdisciplinary Collaboration: Strengthening cooperation between medical, nursing, and rehabilitation teams to align treatment plans with patient needs.
3. Standardizing Rehabilitation Processes: Developing clear, goal-oriented rehabilitation protocols tailored to different patient profiles.
4. Optimizing Resource Utilization: Ensuring an equitable distribution of rehabilitation beds and technical facilities across HUG's various sites.
5. Enhancing Patient Outcomes: Improving mobility, independence, and overall quality of life for patients undergoing rehabilitation through personalized care plans.

Methods

To implement the optimized patient pathway system, HUG developed a structured framework focusing on admission, rehabilitation planning, and discharge coordination. The methodology included:

- Patient Classification: A triage system was introduced to assess patients' rehabilitation potential and allocate them to the appropriate care level.
- Early Transfer Protocols: Patients were transferred from acute care to rehabilitation units as soon as they met pre-defined clinical criteria, reducing unnecessary hospital days.
- Interdisciplinary Goal-Setting Meetings: Weekly multidisciplinary meetings were established to define individualized rehabilitation objectives and monitor progress.
- Standardized Care Pathways: Protocols were developed for musculoskeletal, neurological, geriatric, and psychosomatic rehabilitation, ensuring consistency in care delivery.
- Digital Patient Flow Monitoring: A digital tracking system was introduced to enhance coordination and real-time decision-making regarding patient transfers and bed management.
- Discharge Planning: Structured transition plans ensured seamless post-rehabilitation care, including outpatient follow-up and home support services.

Results

The implementation of the structured rehabilitation pathway at HUG led to significant improvements in patient flow, resource optimization, and care outcomes. The mission of the beds has been reviewed, with an increase in acute beds and a reduction in the number of hospital rehabilitation beds. The average length of stay in rehabilitation patients decreased by 50%, reducing hospital congestion and optimizing bed turnover. The rate of re-transfer in acute care remained stable. Functional recovery scores improved across rehabilitation units, demonstrating the effectiveness of goal-oriented rehabilitation planning. The proportion of patients transferred from acute care to rehabilitation within 72 hours increased, ensuring timely intervention. Bed occupancy rates across rehabilitation units were stabilized, reducing bottlenecks and ensuring efficient utilization of hospital resources. The introduction of structured rehabilitation pathways led to greater consistency in treatment protocols, reducing variability in patient care and improving adherence to best practices.

Conclusion

The restructuring of rehabilitation pathways at HUG has proven to be a highly effective strategy for enhancing patient care, streamlining hospital operations, and improving resource management. By implementing a structured, patient-centered approach, HUG successfully reduced unnecessary hospital stays, optimized bed usage, and improved functional recovery outcomes. Key success factors included early transfer protocols,

standardized rehabilitation processes, and enhanced interdisciplinary collaboration. The integration of digital patient tracking further facilitated real-time decision-making and streamlined coordination between acute and rehabilitation units. Despite these successes, challenges such as resource constraints and workforce capacity remain areas for ongoing improvement. Future efforts will focus on refining the digital monitoring system, expanding outpatient rehabilitation programs, and enhancing staff training to further strengthen interdisciplinary cooperation. This initiative serves as a replicable model for hospitals aiming to improve rehabilitation services through structured patient flow management. The findings highlight the importance of systematic, data-driven approaches in achieving high-quality, efficient hospital care. By continuously refining rehabilitation pathways, HUG remains committed to delivering excellence in patient-centered rehabilitation, ensuring sustainable healthcare improvements for both patients and providers.

Conflicts of interest related to this abstract: None

P-2130

Optimizing Pre-operative Preparation Process in Outpatient Setting to Maximize Day-of-surgery Admission: The Perio Project

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Introduction

Taiwan's healthcare system, while robust, faces increasing strain due to an aging population and rising demand for medical services. This has led to challenges in hospital bed availability and longer patient wait times, particularly for surgical procedures. Recognizing these pressures, we have employed the Perioperative Optimization (PERIO) program. PERIO aims to enhance efficiency by optimizing pre-operative processes, enabling more same-day surgical admissions. This initiative seeks to alleviate hospital congestion, reduce patient anxiety, and improve overall resource utilization, ensuring that our continue to deliver high-quality care amidst evolving challenges.

Aim/Objective(s)

The objective of completing pre-operative preparation in an outpatient setting, including laboratory data, imaging studies, bowel and skin preparation, and anesthesia consultation, is to minimize unnecessary pre-operative hospitalizations. This approach streamlines administrative processes, facilitates clinical pathway development, and ultimately enhances healthcare quality and efficiency. By reducing medical costs, length of hospital stays, and increasing bed turnover rates, while maintaining the quality and scope of patient care, significant improvements can be achieved. This study focused on adjusting the hospitalization process for urological procedures, including hernia repair, transrectal ultrasound-guided prostate biopsy, transurethral bladder tumor resection, and ureteroscopic lithotripsy, to enable patients to complete necessary examinations in an outpatient setting and be admitted to the ward on the day of surgery, thus alleviating pre-operative anxiety and reducing the need for family accompaniment during extended hospital waiting periods.

Methods

Since July 2019, a project team was established to analyze pre-operative outpatient preparation completion rates and length of hospital stays using the hospital's health database. A patient-centered approach was adopted, involving a cross-functional team to identify value requirements and conduct current state analysis. Strategies were developed, and solutions were selected, including: standardizing the pre-operative preparation process, implementing a single-step computerized order entry

system for pre-operative examinations, completing consent forms and anesthesia questionnaires in the outpatient clinic, assigning dedicated urology nurses to provide pre-operative process explanations and post-operative education, and implementing an in-hospital wayfinding system to guide patients to examination rooms.

Results

The completion rates for pre-operative preparations in the outpatient setting improved across all procedures: hernia repair increased from 47.1% to 63.6%, transrectal ultrasound-guided prostate biopsy from 25.0% to 40.0%, transurethral bladder tumor resection from 33.3% to 57.1%, and ureteroscopic lithotripsy from 27.3% to 68.1%. The proportion of patients with a one-day hospital stay also increased: hernia repair from 23.5% to 45.5%, transrectal ultrasound-guided prostate biopsy from 83.3% to 97.8%, transurethral bladder tumor resection from 0.0% to 42.9%, and ureteroscopic lithotripsy from 36.4% to 68.1%. The length of hospital stays also decreased: hernia repair from 3 days to 2 days, transrectal ultrasound-guided prostate biopsy from 2 days to 1 day, transurethral bladder tumor resection from 3 days to 2 days, and ureteroscopic lithotripsy from 2 days to 1 day.

Conclusion

This project, utilizing lean process methodologies, optimized various operational aspects, including standardizing pre-operative preparation processes, implementing a single-step computerized order entry system, completing pre-operative documentation in the outpatient setting, providing personalized pre-operative and post-operative education, and implementing an in-hospital wayfinding system. These measures significantly enhanced same-day outpatient preparation completion rates, reduced patient travel burdens, ensured timely pre-operative assessments, facilitated surgical scheduling, shortened hospital stays, improved bed turnover rates, minimized waiting times, reduced patient financial burdens, and enhanced patient and staff satisfaction and surgical care quality.

Conflicts of interest related to this abstract: None

P-2131

Paediatric Cardiac Surgery Support Program in Antananarivo (Madagascar): First open-heart surgery in Madagascar.

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Introduction

Health needs are huge in Madagascar within a difficult socio-economic context, and more specifically for specialized care and cardiac pathologies. Accessing to those services are limited and constrained due to, as well, lack of performant diagnosis equipment and prevention tools, lack of human resources availabilities, as well on proper healthcare facilities and population's geographical access difficulties. Prior to this rehabilitation, only closed-heart surgery was available in Madagascar, which severely limited treatment options for children with heart disease requiring open-heart surgery. These children had to be transferred abroad for surgery, which was often costly and complicated for the patients' families. That's how this project became an evidence to support the development of cardiac surgery in Madagascar and open access to those inexistent care.

Aim/Objective(s)

La Chaîne de l'Espoir's mission is to improve access to healthcare, in the long term, by building hygienic and performant infrastructures, by sensibilizing communities and training

local teams. This approach enables local medical and technical professionals to become autonomous and respond to the country's healthcare needs. Renovating a cardio-pediatric department in the capital, Tananarive, by ingeniously designing 300m² area, despite a worldwide COVID crisis, was the first challenge to strengthen this specialized care. The aim was to work with local entities and with different pro-bono support, especially Bouygues Bâtiment International, to offer autonomous facilities, with a reduced budget, taking into account the lowest environmental impact possible, by using an existing structure. The second goal was to build strong partnerships, between local and international partners, to ensure perennity and continuity of the project, on medical and technical cooperations with reinforcement of competencies for the first years of surgical interventions.

Methods

The project begun with an initial cooperation between the medical center Soavinandriana in Antananarivo and Medecins du Monde. First evaluations: context, needs and existing partners. By ensuring the continuity of this project, La Chaîne de l'Espoir gathered a multi-disciplinary team to launch it. International and local construction actors, suppliers, logistics partners and medical teams agreed to join to ensure the quality and sustainability of this ambitious project. The chosen solution, design an autonomous unit: operating theatre, recovery room, sterilization unit and the technical facilities required to perform open-heart surgery. Respecting the international standards by implementing air treatment monitoring and a new biomedical equipment plan, we're confident to ensure infection control and patient's safety. A reinforcement plan including mentoring of medical and technical teams and training missions, have been set up to ensure optimum handling of equipment and continuous capacity building, especially with the cooperation of university hospital of La Réunion.

Results

The first open-heart surgery in May 2024 was a great success, with a Malagasy team, thanks to the fruitful cooperation of those multiple and various stakeholders. Thanks to the French Development Agency and its financial partners support from 2024, different missions have been and will be organized for the next 3 years to reinforce Malagasy health system and treat cardiac pathologies in Indian Ocean Region. Already 8 children have received surgery for free and about 30 medical and technical staffs have initiated training in 2024. Around thirty closed heart operations per year, carried out by the Malagasy team in complete autonomy. The integration of local staff is permanent and they are following step by step the organization of those missions. 2025 will be a key moment to analyze the 1st year results and to let them take the lead step by step on all aspects, medical interventions, technical maintenance, purchase and logistics issues, same as hygiene improvement. The success of this project lies in a global approach from the beginning, including all concerned stakeholders, building strong partnership with national and international actors, encouraging peer-to-peer training and real immersion in university hospitals, with the support of major institutional funders.

Conclusion

This amazing achievement for children with heart disease in Madagascar is a real message of hope for the country and more generally for the region. Indeed, several extension and optimization ideas are already under discussion for future actions in the Indian Ocean region, such as:

- The deployment of diagnosis tools in the region to be referred to the medical center Soavinandriana in Tananarive, with the financial support of French Development Agency,

- The creation of a catheterization room to encourage less invasive treatments and guarantee easier recovery for the patients, reinforce local teams on new and innovative technologies and increase the volume of medical care at the end, and reduce the huge waiting list in Madagascar and Comoros,
- The creation of a nearer hospitalization area to facilitate surgical interventions and reduce infection risks,
- Or the addition of physical rehabilitation, with stress effort room, and other needed areas.

From 2025, volunteers from La Chaîne de l'Espoir and the CENHOSOA team will perform around twenty open heart operations during 4 medical-surgical missions each year.

Together, let's save children and continue our actions !

Conflicts of interest related to this abstract: None

P-2132

Patient Safety and Just Culture: A Pre-Post Study on the Impact of Innovative Interventions to Raise Awareness Among Healthcare Professionals.

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Introduction

Patient safety is a fundamental component of healthcare and an essential element in delivering high-quality services. In Italy, Law No.24/2017, established "the safety of care as an integral part of the right to health." The IRCCS AOU di Bologna, Policlinico di Sant'Orsola ensures safety by analyzing reported events to identify causes and implement preventive measures. Incident reporting by healthcare professionals is crucial but underused due to organizational and cultural barriers. In 2023, a pre-post intervention study was launched, starting with a validated questionnaire from the Joint Commission Italian Network (JCI) to assess professionals' safety perceptions. The results highlighted the need to improve event reporting. In 2024, an improvement program based on the COM-B model (Capability, Opportunity, Motivation – Behavior Change Wheel) was introduced. Key actions include a network of patient safety facilitators, specialized training, enhancements to the SegnalER platform, and the use of Significant Event Audits to drive change.

Aim/Objective(s)

The study evaluates the impact of a structured intervention on the reporting of significant events related to patient safety, using it as an indirect indicator of healthcare professionals' sensitivity to clinical risk.

Through the implementation of targeted strategies, the study seeks to:

- Increase the reported events, including near misses, through organizational and training tools.
- Remove reporting barriers by reducing fear of blame and fostering trust in the system.
- Develop a strong and sustainable safety culture by integrating the *Just Culture* principle to encourage a transparent approach to errors.
- Optimize the reporting process through the SegnalER platform (developed by the Emilia-Romagna region) and the support of the patient safety facilitators network.

- Monitor changes by comparing pre- and post-intervention data, analyzing results from the JCI questionnaire and Significant Event Audits.

The hypothesis is that an increase in event reporting will reflect greater awareness and an overall improvement in safety management.

Methods

This pre-post intervention study was conducted at the IRCCS Azienda Ospedaliero-Universitaria di Bologna, Policlinico di Sant'Orsola. In 2023, a validated questionnaire from the Joint Commission Italian Network (JCI) was administered to assess healthcare professionals' perceptions of patient safety. In 2024, an improvement program based on the COM-B model was implemented, targeting key factors:

Capability:

- Specialized training on patient safety and the importance of reporting.
- Practical workshops on the SegnalER platform to optimize its use.

Opportunity:

- Development of a network of patient safety facilitators to support and promote reporting.
- Management and analysis of reports through Significant Event Audits, also used for professional benchmarking.

Motivation:

- Implementation of a *Just Culture* to reduce fear of blame.
- Structured feedback on reports to encourage engagement.

A follow-up in 2026 will measure the intervention's effectiveness through the number of reported events and a new round of the JCI questionnaire.

Results

In 2023, the JCI Questionnaire was administered to 117 healthcare professionals to assess their perception of patient safety. The questionnaire consisted of 41 items across eight sections, covering key aspects such as organizational culture, communication, error management, and event reporting. The independent variable was the number of reported events over the previous 12 months. Descriptive analysis revealed a low reporting propensity: 45.3% of professionals did not report any events, 38.5% reported only 1-2 events, 11.1% reported 3-5 events, 4.3% reported 6-10 events, and only 0.9% reported more than 11 events. Fisher's exact test and pairwise analysis identified significant associations related to two key questionnaire items: "When an event is reported, it seems that the person is put on trial rather than the problem". The perception of blame was significantly higher among those who did not report events ($p = 0.018$) compared to those who reported 6-10 events ($p = 0.0485$). "This hospital's management provides adequate resources to improve patient safety". Professionals reporting 3-5 events perceived significantly greater resource allocation from hospital management than other groups ($p = 0.039$), with a trend toward significance in the 6-10 event group ($p = 0.057$).

Conclusion

The data analysis confirms that the number of reported safety events is associated with healthcare professionals' perception of safety culture and the organizational resources dedicated to improving care quality. These findings align with existing literature, suggesting that a transparent event-reporting environment, free from fear of blame, is essential for a resilient and continuously learning healthcare system. The identification of significant differences in safety perception among different reporting groups indicates that engagement in incident reporting may be influenced by organizational and psychological factors, such as trust in

the system, supportive leadership, and awareness of reporting benefits. The approach based on the COM-B model provides a targeted intervention on *Capability*, *Opportunity*, and *Motivation* to promote behavior change among healthcare professionals. The follow-up in 2026 will assess whether these strategies have successfully increased awareness of patient safety, contributing to the establishment of a more open and proactive safety culture in clinical risk management.

Conflicts of interest related to this abstract: None

P-2133

Patient Safety Culture

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Introduction

Patient safety is a cornerstone of healthcare quality, requiring an organizational culture that effectively identifies, analyzes, and manages incidents. Strengthening the Safety Culture at Grupo Lusiadas Saúde involved structuring a sustainable risk management approach. The initiative aimed to enhance incident reporting, analysis, and resolution processes, ensuring a swift and effective response. Additionally, it sought to foster engagement among healthcare teams and leadership, promoting collaboration and continuous learning. Transparency and organizational communication were reinforced to disseminate best practices and drive continuous healthcare improvements.

Aim/Objective(s)

Patient safety is a fundamental pillar of healthcare quality, requiring an organizational culture that fosters the efficient and integrated identification, analysis, and management of incidents. This project aimed to strengthen the Safety Culture within the Lusiadas Health Group by implementing a structured and sustainable approach to risk management. The initiative focused on improving incident reporting, analysis, and resolution processes to ensure a faster and more effective response. Additionally, the project sought to enhance the engagement of healthcare teams and leadership in patient safety management, promoting a collaborative environment and continuous learning. Strengthening transparency and organizational communication was also a key objective, ensuring that best practices and improvement actions are widely shared and implemented. By fostering a culture of accountability and proactive risk management, the project contributes to a safer healthcare environment, positively impacting both patient experience and clinical outcomes.

Methods

A decentralized incident management model was adopted, assigning responsibility to local managers and risk specialists. Maturity monitoring included indicators such as incident reporting rates, near-miss to adverse event ratios, patient-related incident, and resolution times. Implemented actions included service visits, meetings with local managers, platform enhancements for optimized incident management. Communication was strengthened through internal reports, leadership presentations, staff training. Safety Culture assessment survey ("Assessment Patient Safety Culture -Portuguese Hospitals", has been validated for Portugal based on SOPS 2- from the Agency for Healthcare Research and Quality) was conducted to monitor perceptions and identify improvement areas. Other initiatives included "Quality Hour" (presentation for all professionals on quality and safety), the "Quality Wall" (posters conveying key messages to encourage reflection and improvement), and dedicated time for incident analysis.

A strategic focus was placed on promoting a non-punitive culture through leadership training and Second Victim Policy to support staff involved in adverse events.

Results

The implementation of this model significantly increased team involvement in incident management, reinforcing the Safety Culture within the Lusiadas Health Group. The decentralization of the process enabled a more agile and efficient response to incidents, leading to measurable improvements in key performance indicators. The percentage of incident reports with a decision made within 30 days increased from 42.6% to 55.4%, reflecting a more structured and responsive system. The average time to close incidents was reduced from 177 days to 93 days, demonstrating greater efficiency in resolving reported events. The ratio of near misses to adverse events improved, indicating enhanced risk awareness and preventive action. The formal service visits and biweekly meetings improved communication among teams, allowing for earlier risk identification and proactive implementation of preventive measures. The expansion of the "Quality Hour" led to 12 cross-unit events, fostering stronger team commitment. The introduction of the "client safety champion" in each unit boosted frontline staff participation. The "Quality Wall" increased transparency, highlighting system and process improvements. In 2024, the Second Victim Protocol was activated for four employees involved in sentinel events, reinforcing the commitment to a non-punitive culture and staff support. These measures collectively strengthened patient safety and care quality.

Conclusion

Strengthening the Safety Culture at Grupo Lusiadas Saúde posed challenges, particularly in raising awareness about incident reporting as a tool for continuous improvement. A major challenge was promoting a non-punitive policy, ensuring professionals understood that reporting aims to detect systemic weaknesses rather than assign blame. Strategies prioritized transparency and emphasized the positive impact of incident reporting on patient safety and healthcare quality. Key measures included more accessible communication channels, structured feedback loops, and increased visibility of safety improvements, fostering trust in the system and boosting adherence among professionals. The progress achieved reflects faster incident management and a stronger organizational commitment to patient safety. Future plans include developing new monitoring indicators, such as team response times and corrective action impact. Additionally, the adoption of Global Trigger Tools for clinical audits and AI-based predictive incident analysis is anticipated. Expanding training across all professional categories and enhancing leadership engagement in data-driven decision-making will further reinforce the safety culture. This model underscores a continuous commitment to patient safety and serves as a benchmark for institutions striving to develop a proactive and efficient risk management culture.

Conflicts of interest related to this abstract: None

P-2134

Performance Improvement Project: Zero CLABSI for 2025

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Introduction

Al-Iman General Hospital has a 32-bed Adult ICU. Being the second biggest ICU at Riyadh's First Health Cluster, the ICU receives patients from neighboring hospitals and also serves the many patients presenting to AIGH. Central line related blood stream infections (CLABSIs) are known complications to central lines and cause significant increase in patient morbidity and mortality. In the first three quarters of 2024, the CLABSI rate per 1000 central line days was 3.12 in the first quarter, 1.11 in the second quarter, and 4.69 in the third quarter, all of which are significantly higher than the national benchmark of 0.9. As such, an area for improvement for patient safety was identified and an improvement project was made to address this significant issue and the project started on 1/11/2024 and is currently ongoing.

Aim/Objective(s)

The primary aim is to reduce the CLABSI rate in our hospital by 80% to maintain a level below the national benchmark 0.9 events per 1000 device days with an ambitious goal of achieving 0 CLABSI in year 2025.

To achieve that, we put forward the following objectives:

1. Implement a policy on central line indications, uses, and types.
2. Intensify training and education for healthcare workers on infection prevention and control practices including aseptic technique, line insertion, and line maintenance.
3. Supply necessary equipment for line maintenance and care as well as supply alternatives to central line

Methods

This project utilized a Plan-Do-Study-Act (PDSA) Framework to systematically implement and evaluate interventions. We based our initial assessment on 2024's CLABSI rates and identified specific areas of improvement through staff observation and interviews and analysis of bundle compliance components. Afterwards, a policy which includes protocols and indications for central lines was developed and implemented. Also, education and training were intensified for staff including competency assessment to ensure and reinforce adherence to the protocols. Regular meetings and analysis of follow up data were conducted to facilitate continuous evaluation of the strategies and encourage maintenance of the progress done.

Results

So far, results are promising, with no case of CLABSI as of 2025. Compliance to care bundles has significantly improved compared to previous months which could be attributed to the intensified education and training with competency assessments. Device days before and after initiation of the project remain the same, which necessitates evaluation of the implementation and adherence to the policy pertaining to protocols and indications for central lines. Early into the launch of the project, there were some interruptions in essential supplies for proper line maintenance and care which was attributed to challenges faced by the purchasing department due to budgeting issues and closing out the fiscal year. However, those issues were rapidly rectified by the start of the new fiscal year and a stricter implementation of Periodic Automatic Replacement (PAR) level monitoring and cutoffs is planned to avoid a repeat of such an issue.

Conclusion

The implementation of this quality improvement project at Al-Iman General Hospital has demonstrated a significant reduction in CLABSI rates, achieving zero infections as of 2025. This outcome not only meets our ambitious target but also surpasses the national benchmark, highlighting the effectiveness of our comprehensive approach to infection prevention. By establishing clear policies on central line usage and intensifying training for healthcare workers, we have created a culture of safety and accountability within the ICU. The improvements in bundle compliance reflect the positive impact of continuous education and competency assessments. This project

contributes to health service development by establishing simple and practical practices that can be replicated across other healthcare institutes. The proactive monitoring of supplies and adherence to protocols ensures sustained progress.

Conflicts of interest related to this abstract: None

P-2135

Pilot Prehabilitation Program Improving Clinical Outcomes of Hospitalized Patients

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Introduction

Modern perioperative care plays a key role in reducing postoperative complications and improving surgical treatment outcomes. The implementation of accelerated recovery protocols such as Enhanced Recovery After Surgery (ERAS) enables the optimization of treatment by minimizing the metabolic stress associated with surgical procedures. An essential complement to these protocols is prehabilitation, which involves comprehensive preparation of the patient for surgery by enhancing physical condition, nutritional status, and providing psychological support. The introduction of a prehabilitation pilot within perioperative care is justified by numerous scientific studies that demonstrate its effectiveness in reducing complications, improving treatment outcomes, and optimizing healthcare costs. Standardizing procedures would help harmonize clinical practices and improve the quality of care for surgical patients. This prehabilitation pilot could serve as a first step toward implementing a comprehensive ERAS program in Poland, which, in the long term, may significantly enhance surgical treatment outcomes nationwide.

Aim/Objective(s)

A. Reduction of complications and shortening of hospitalization: demonstrate that implementing preoperative interventions reduces the risk of complications by 40% and shortens the hospital stay by 2.5 days

B. Standardization of care and reduction of inter-center differences. In Poland, there are no uniform protocols in perioperative care: only 46.6% of hospitals perform nutritional assessments of patients, and only 51.4% utilize preoperative carbohydrate loading: standardize procedures and unify clinical practice.

C. Improvement of patient performance and reduction of readmissions: demonstrate that patients undergoing prehabilitation can expect a shorter postoperative rehabilitation period and a 30% reduction in hospital readmissions.

D. Optimization of treatment for patients with chronic diseases: manage comorbidities can contribute to improved surgical outcomes by reducing the risk of cardiovascular complications and

sepsis through glycemic control and to demonstrate that nutritional interventions reduce the number of infectious complications in malnourished patients by 45.4%.

Methods

The pilot prehabilitation program will be conducted in a hospital specializing in surgical procedures. The study will include adult patients scheduled for planned abdominal or orthopedic surgeries. Participants will be selected based on predefined inclusion criteria, which include an increased risk of postoperative complications due to age, comorbidities, or malnutrition. The intervention will include a comprehensive prehabilitation protocol consisting of:

- Physical training: Supervised endurance and resistance exercises tailored to the individual capabilities of the patients.
- Nutritional support: Nutritional supplementation with immunomodulating properties and carbohydrate loading before surgery.
- Psychological support: Stress management techniques and psychological counseling aimed at improving patients' mental preparation.

Data will be collected before and after the intervention, including assessments of physical capacity, nutritional status, and psychological well-being. Postoperative outcomes such as complication rates, length of hospitalization, and the number of readmissions will be compared between the prehabilitation group and the control group receiving standard care.

Results

The implementation of the pilot prehabilitation program is expected to achieve significant improvements in key clinical outcomes. It is anticipated that patients undergoing prehabilitation will experience approximately a 40% reduction in postoperative complications compared to the control group. Additionally, the average hospital stay is projected to be reduced by approximately 2.5 days, aligning with the program's objectives. Patients' physical capacity is expected to improve by an average of 15% based on the six-minute walk test results after the intervention. Nutritional assessments are anticipated to show a 40% reduction in the number of patients classified as malnourished at the time of surgery. As part of psychological support, pre-operative anxiety levels are expected to be significantly reduced. Furthermore, the program is expected to lead to a 30% decrease in hospital readmissions within 30 days post-discharge. These projected results aim to confirm that a structured prehabilitation program effectively improves patients' physical readiness, nutritional status, and mental well-being, contributing to improved postoperative outcomes.

Conclusion

The planned implementation of the pilot prehabilitation program aims to enhance perioperative care standards in the Polish healthcare system. The program is expected to reduce postoperative complications, shorten hospital stays, and improve patient well-being, in line with the objectives of international Enhanced Recovery After Surgery (ERAS) protocols. The standardization of prehabilitation practices should help eliminate inconsistencies in perioperative care currently observed in Polish hospitals. Furthermore, improved treatment outcomes may result in reduced healthcare costs by minimizing complications and readmissions. The pilot program is intended to serve as a scalable model for integrating prehabilitation into broader ERAS protocols on a national level. The innovative approach, combining physical training, nutritional support, and psychological preparation, is expected to provide a comprehensive solution for improving surgical outcomes. Future research will focus on expanding this model across various surgical disciplines and evaluating its long-term benefits for healthcare system efficiency and patient quality of life.

Conflicts of interest related to this abstract: none

P-2136

Prevalence, Risk factors & Bacterial distribution of Peritonitis among adults undergoing Continuous Ambulatory Peritoneal Dialysis In VSMMC from Nov 2017-Dec 2022

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Introduction

Vicente Sotto Memorial Medical Center (VSMMC) is a leading healthcare institution in the Philippines, confronting the growing challenges associated with end-stage renal disease. With a high prevalence of diabetes and hypertension, patients undergoing peritoneal dialysis face a significant risk of peritonitis, a complication that can lead to severe morbidity, ICU admissions, and even mortality. This study, conducted from 2017 to 2022 on 50 adult patients, revealed that Gram-positive bacteria, particularly *Staphylococcus aureus*, were the predominant pathogens, while Gram-negative organisms also contributed to the infection profile. A mortality rate of approximately 10% and a 30% ICU admission rate underscore the clinical burden of peritoneal dialysis-associated peritonitis. These findings emphasize the urgent need for enhanced infection control measures, tailored antibiotic protocols, and improved patient monitoring, reflecting VSMMC's commitment to advancing high-quality, equitable healthcare in a resource-limited setting.

Aim/Objective(s)

This study aims to analyze the prevalence, risk factors, and bacterial distribution of peritonitis in adult patients undergoing continuous ambulatory peritoneal dialysis (CAPD) at Vicente Sotto Memorial Medical Center (VSMMC) from November 2017 to December 2022. Specifically, it seeks to determine the incidence of peritonitis among CAPD patients during the study period and identify the common bacterial isolates responsible for infection. Additionally, the study will examine patient characteristics, including age, sex, comorbidities, and the etiology of end-stage renal disease (ESRD), to assess their association with the risk of developing peritonitis. Furthermore, clinical outcomes such as morbidity, ICU admission, and mortality rates will be analyzed. The findings from this study will provide evidence-based data to improve peritonitis prevention, diagnosis, and treatment, ultimately enhancing the quality and safety of CAPD management.

Methods

A retrospective study was conducted at VSMMC, analyzing medical records of CAPD patients diagnosed with peritonitis from November 2017 to December 2022. The study included adult patients (≥ 19 years old) with confirmed peritonitis and excluded those with incomplete records or peritonitis due to hemodialysis. Total enumeration sampling was used, with approximately 50 cases included. Data was extracted using a standardized collection tool and analyzed using SPSS v.23. Descriptive statistics were used to summarize patient demographics and bacterial isolates, while the Chi-square test was employed to assess associations between patient characteristics and clinical outcomes, and the t-test was used for age comparisons. Ethical clearance was obtained, and data confidentiality was strictly maintained in compliance with institutional and national guidelines.

Results

This retrospective study analyzed 50 cases of peritoneal dialysis-associated peritonitis at VSMMC from 2017 to 2022. Findings revealed that Gram-positive bacteria were the most fre-

quently isolated organisms, with *Staphylococcus aureus* accounting for approximately 40% of cases, followed by *Streptococcus* species (25%). Among Gram-negative organisms, *Escherichia coli* (20%) and *Klebsiella pneumoniae* (10%) were the most common, while 5% of cultures yielded negative results. The study population had a male predominance, with a mean age in the mid-50s. The most common comorbidities were diabetes mellitus and hypertension, both of which showed a statistically significant association with an increased risk of peritonitis ($p < 0.05$). In terms of clinical outcomes, 30% of patients required ICU admission, and the in-house mortality rate was approximately 10%. Data collection followed a standardized process, and statistical analyses were performed using SPSS v.23, employing Chi-square test to assess relationships between patient demographics, bacterial isolates, and outcomes. These findings highlight the need for enhanced infection control strategies, improved patient monitoring, and tailored antibiotic protocols to optimize the management of peritoneal dialysis-associated peritonitis and reduce its associated morbidity and mortality.

Conclusion

This study provides valuable insights into the bacterial distribution and risk factors associated with CAPD-related peritonitis at VSMHC. The high incidence of Gram-positive bacteria as causative agents reinforces the importance of aseptic techniques and catheter care in peritoneal dialysis. Furthermore, the significant association between peritonitis and comorbidities such as diabetes and hypertension suggests the need for more personalized monitoring and preventive strategies. By identifying common pathogens, this study supports the development of hospital-specific antibiotic guidelines to optimize empirical treatment and reduce antibiotic resistance. Moreover, structured patient education programs on peritoneal dialysis care could further reduce infection rates and improve outcomes. Overall, this research contributes to enhancing the quality and safety of CAPD management in VSMHC, aligning with broader healthcare goals of infection prevention and improved dialysis outcomes. Future studies should explore antimicrobial resistance patterns and long-term patient survival to further refine peritonitis management strategies.

Conflicts of interest related to this abstract: None

P-2137

Preventing Falls in High-fall-risk Elderly through Seamless Support from Hospital to Community: A Pilot Program by Occupational Therapy

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Introduction

In Emergency Medicine Ward (EMW), over one-third of elderly patients referred to OT services were at different levels of fall risks. Among these patients, over 40% of them had history of fall in recent 6 months. Falls among elderly, leading to hospitalization and subsequent support, create a significant burden on patients, their families and the society in terms of physical health, mental health and finances. Therefore, a pilot fall intervention program (FIP) was initiated in July 2024 by Occupational therapists of NLTH for early identification of and intervention to fall risk patients for preventing recurrent fall after their discharge to community.

Aim/Objective(s)

1. To identify elderly patients with fall risks,

2. to stratify and offer early interventions to fall-risk elderly and bridge them to community support services as appropriate, and
3. to enhance the awareness of caregivers in fall prevention

Methods

EMW elderly patients referred for OT were screened within 1 working day. Home-dwelling fall-risk patients were recruited. Patients' functional abilities and fall risks were assessed with Modified Barthel Index (MBI) and Fall Risk Assessment Scale for the Elderly (FRASE). Fall-related interventions, including self-care training and fall prevention education were provided during hospitalization. To facilitate safe discharge, pre-discharge Tele home visits (TCOP) were conducted promptly to patients with home hazards to reduce environmental fall risks. Upon discharge, patients' needs were reviewed and referred to OT outpatient for further functional rehabilitation if necessary. Community OT were arranged for post-discharge home visits if follow-up actions were required after TCOP. Appointments for OT outpatient and home visits to high-fall-risk patients were scheduled earlier, within two weeks post-discharge. During home visits, the Home Falls and Accidents Screening Tool (Home FAST) was done for home assessment, with safety advice and assistive devices prescribed as needed.

Results

The pilot FIP lasted for 6 months. 185 patients were recruited, of whom 59 were high-fall-risk (average FRASE score 17) requiring moderate assistance in self-care (average MBI score 53). 12% of these patients received TCOP, and 37% of them received post-discharge home visits (COT). 35% of them accessed OT outpatient or Geriatric Day Hospital services for rehabilitation. During initial COTs to high-fall-risk patients, their functional performances and home environment safety were evaluated. They were found to require moderate assistance in self-care (average MBI 59) with an average Home FAST score 5.7 out of 25 (a higher score in Home FAST indicated a higher risk of falling). During the visits, home safety advice was given. Home modifications such as handrail installation were conducted if indicated. Follow-up COTs were arranged to over half of the patients after 1-2 months. Despite remaining similar in functional capacity (average MBI score 60), improvements were shown in reduced home hazards and fall risks as reflected by their Home FAST (4.2) and FRASE (14.9) scores. Furthermore, 50% of the high-fall-risk patients who received both follow-up home visits and OT outpatient rehabilitation classes had improved fall risk status from high to low (8%) or medium (41%).

Conclusion

The pilot FIP offered a framework to therapists, allowing them to quickly screen out patients with fall risks and provide timely interventions based on patients' individual needs. On the other hand, patients and caregivers had better access to community resources for enhancing safety and quality of care in patient's own home. One of the major innovations adopted was the use of TCOP, which was for conducting virtual home visits to assess patients' home setting during hospitalization. It helped better prepare patients for a safe discharge through delivering immediate and specific home safety recommendations. Another enhancement adopted was the timely collaboration with OT outpatient. Early appointments for OT outpatient were provided to deconditioned, high-fall-risk patients, aiming for quicker recovery in functional performances and thereby reducing fall risks. To conclude, the pilot FIP showed promising preliminary results. OT interventions were effective in promoting fall risk reduction among home-dwelling, high-fall risk patients by eliminating home hazards and reinforcing fall prevention in home settings through functional rehabilitation and education for caregivers. In future, it should be considered to

increase involvement of patients and caregivers in program refinement by collecting their opinions and collaborating with community organizations to expand the support network for our patients.

Conflicts of interest related to this abstract: None

P-2138

Preventive Diagnostic Therapeutic Pathway for the Prevention and Treatment of Pediatric Obesity. The ASL BT Organizational Model.

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Introduction

Pediatric obesity is a significant public health challenge. The Apulia Region, through its Food Hygiene and Nutrition Services (SIAN) within the Prevention Departments, has been committed for years to promoting healthy lifestyles by combating sedentary behavior, overweight and obesity in both adult population and particularly pediatric population. Within the framework of the Apulia Region Regional Prevention Plan (PRP) 2021-2025, pursuant to Regional Government Resolution (D.G.R.) No. 2198 of December 22, 2021, a Preventive Diagnostic Therapeutic and Assistential Pathway (PPDTA) for combating pediatric obesity was adopted through Executive Determination No. 318 of December 29, 2022. This PDTA is a crucial tool for managing system sustainability, service planning, improving the quality of care, and ensuring equitable access for the healthcare professionals involved.

Aim/Objective(s)

The primordial goal is to implement a detailed Preventive Diagnostic Therapeutic Care Pathway (PPDTA), which becomes an elective tool for service planning, governance of system sustainability, improvement of the operations of the entire Multidisciplinary Team involved in the care of the overweight/obese child and adolescent.

Methods

ASL BT has developed a Corporate Organizational Model in line with national guidelines, with a focus on a multidisciplinary and integrated pathway. The ASL BT Organizational Model was defined in three phases: 1) Implementation of the Regional PDTA; 2) Establishment of a Clinical Care Network; and 3) Definition of the Clinical-Organizational Process. The Clinical Care Network comprises: SIAN (Medical Director, Dietitian), DISTRICT (General Practitioners/Pediatricians of Free Choice [GP/PLS], Sports Medicine Specialist [DSS 5]); Mental Health Department (Medical Director, Psychiatrist, Psychologist); Rehabilitation Unit (Medical Director, Physiotherapist); Pediatrics Unit (Medical Director); and the ASL BT Clinical-Organizational Process Management Lead (Medical Director). The care of children and adolescents is structured into three levels of preventive and care interventions, within a framework of professional and organizational integration.

Results

ASL BT Strategic Management has implemented the Apulia Region PDTA (Executive Determination 318/22) and established a Clinical Care Network to replicate the workflow within the corporate context. This optimizes all available hospital and community resources and designs a Clinical Governance organizational model applied to Prevention, Diagnosis, and Treatment. The establishment of a multidisciplinary team facilitates the care of pediatric patients who are obese or at risk of obesity,

ensuring comprehensive clinical, psychiatric, and physiatrist evaluations and establishing appropriate nutritional, psychological, and psychotherapeutic rehabilitation plans.

Conclusion

ASL BT has implemented an organizational model with the establishment of a multidisciplinary team that delivers care to pediatric patients who are obese or at risk of obesity. This ensures a comprehensive clinical assessment, encompassing not only anthropometric and pediatric aspects but also psychiatric (Disordered Eating Screening [DCA Screening]) and physiatrist aspects, and establishes appropriate nutritional, physiatrist, psychological, and psychotherapeutic rehabilitation plans. Within the framework of hospital-community care integration projects, a pathway dedicated to pediatric patients has been implemented, covering prevention, diagnosis, treatment, rehabilitation, and follow-up.

Conflicts of interest related to this abstract: no

P-2139

Recent Trends in Restoring Endodontically Treated Teeth for Improved Outcomes

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Introduction

Restoring and preserving an endodontically treated teeth has been the biggest challenge for many dentists and can have an overweight on the healthcare system due to the challenges that the dental sector faces. One of these challenges is the material used in fabricating crowns that help protect the compromised tooth structure that is subjected to a very harsh environment, the oral environment with all the complexities that it faces such thermal changes, constantly moistened, and continues and sometimes heavy loading. In our research we have managed to solve this challenge for improved outcome by utilization of the newly introduced to the dental field material to create crowns that help preserve and protect teeth and increase its longevity and have an improved outcome on the overall health of patients.

Aim/Objective(s)

The aim of this research was to investigate the structural integrity of endodontically treated and restored teeth using a material that was introduced recently in the dental field called Polyetheretherketone to be used as full coverage crowns. The objectives were to identify an appropriate sample, test its physical properties by means of compressive static loading tests, then finally examine and analyze the mode of failure in comparison with the widely used range of crowns fabricated with IPS E-Max CAD crowns.

Methods

Two single-rooted maxillary second premolar typodont teeth were prepared according to standardised preparation guidelines for two different full-coverage crown restorations: CAD/CAM monolithic lithium disilicate crowns (E.max) for the control samples, and machine pressed monolithic PEEK crowns for the test samples. Teeth were duplicated in a polyurethane-based resin, with properties analogous to human dentin; n = 5 for each category. Replicas were embedded in polyurethane-based resin material using a retaining copper ring, with a simulated 200-micron periodontal ligament. Subsequently, all samples received orthograde root canal treatment using standardised preparation and obturation techniques. Crowns were cemented with a resin-modified GIC using a standardized cementation force. All teeth were subjected to a monotonic, axial static load of 2500N to the point of fracture.

Results

All control group samples displayed failure as a combined crown/tooth fracture. The crowns in the test group samples (PEEK) did not fracture under the experimental loads. Under the maximum loads, the crowns exhibited plastic deformation visible as an indentation created on the occlusal surface. Sub-surface cohesive damage of the interface cement was noted. T-test showed that the resistance to fracture of the test group compared to the control group was highly significant ($p < 0.001$).

Conclusion

Within the limitations of this study, PEEK crowns help preserve the remaining tooth structure and provide a more predictable protection when compared to E.max crowns. They demonstrate failure by surface deformation and subsurface cohesive damage to the

interface cement layer. It is unknown if this failure mode would occur under normal masticatory loads.

Conflicts of interest related to this abstract: None

P-2140

Reducing CAUTI Through Chlorhexidine Perineal Cleansing: Enhancing Patient Safety and Improving Healthcare Outcomes

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Introduction

The issue of catheter-associated urinary tract infections (CAUTI) remains a significant concern in healthcare settings, particularly in intensive care units and long-term care facilities. At Taichung Veterans General Hospital (TVGH), a major medical center in central Taiwan, efforts to reduce hospital-acquired infections are a priority. According to the 2022 Taiwan Ministry of Health and Welfare report, urinary tract infections ranked as the second most common healthcare-associated infection. Research indicates that 15-25% of patients develop urinary tract infections following catheter insertion, with prolonged catheter use increasing the risk of bacteriuria and associated complications. Recognizing this risk, Our unit implemented a preventive strategy by introducing chlorhexidine perineal cleansing before catheter insertion. This intervention aims to reduce CAUTI rates, improve patient outcomes, and minimize unnecessary healthcare costs. By enhancing infection control practices, TVGH continues to strengthen patient safety and deliver high-quality medical care.

Aim/Objective(s)

This project aimed to investigate whether performing perineal cleansing with chlorhexidine before urinary catheter insertion could effectively reduce urinary tract infections (UTIs) in hospitalized patients. Previous research suggested that 15-25% of patients develop UTIs after catheter insertion, with those having catheters in place for more than one week showing a 20% risk of bacteriuria, which extends hospital stays and increases complications. The study was conducted to evaluate the clinical impact of implementing this preventive measure on infection rates, patient outcomes, and healthcare costs. By reducing infection rates, the intervention also aimed to minimize unnecessary medical expenses, shorten hospitalization periods, and improve overall patient care quality.

Methods

This study adopted a quasi-experimental design to evaluate the effectiveness of chlorhexidine perineal cleansing before uri-

nary catheter insertion in reducing CAUTI rates. The participants included patients admitted to single-occupancy rooms who required catheter insertion or replacement between November 2022 and December 2024 at Taichung Veterans General Hospital. A total of 464 catheter insertion or replacement procedures were recorded. Data collection involved documenting infection incidents, catheter insertion dates, and patient outcomes. The intervention group received chlorhexidine cleansing before catheter insertion, while historical data from January to July 2022 served as the control group. Data analysis was conducted using infection density rates (‰) to assess CAUTI occurrences. Statistical comparisons measured infection rate changes between the two groups. The results were used to evaluate the intervention's impact on infection reduction, hospital stay duration, and overall patient care quality.

Results

From November 2022 to December 2024, the implementation of 'chlorhexidine urethral cleansing before catheter insertion' was conducted, involving a total of 464 catheter insertions or replacements. In 2023, there were two CAUTI (Catheter-Associated Urinary Tract Infection) cases, with an average infection density of 0.67‰. In 2024, there were five CAUTI cases, with an average infection density of 1.54‰. Compared to the period from January to July 2022, the average infection density significantly decreased, indicating a notable reduction in infection cases. Additionally, hospital stays were reduced by an average of 5.65 days compared to CAUTI-infected patients. The intervention saved approximately TWD 5,000 in infection treatment costs and TWD 3,000 in extended hospitalization expenses, achieving a total cost-effectiveness saving of approximately TWD 7,712. This demonstrates that chlorhexidine cleansing before catheter insertion effectively improves overall efficiency and reduces healthcare costs.

Conclusion

The implementation of chlorhexidine urethral cleansing before catheter insertion has demonstrated significant clinical benefits in reducing CAUTI (Catheter-Associated Urinary Tract Infection) rates. Based on the data collected from November 2022 to December 2024, the number of CAUTI cases decreased significantly compared to previous records. The infection density improved notably, decreasing from 2.64‰ to 0.67‰, showcasing the intervention's effectiveness. Moreover, this measure reduced hospital stays by an average of 5.65 days for affected patients, contributing to improved patient recovery and efficient resource utilization. In addition to clinical improvements, this intervention also generated substantial cost savings. By reducing infection treatment costs by approximately TWD 5,000 and shortening hospitalization expenses by TWD 3,000, the total estimated savings amounted to TWD 7,712. This financial benefit underscores the intervention's value in enhancing healthcare efficiency and reducing unnecessary medical expenses. Furthermore, the intervention was well-tolerated by patients, with only a few reporting mild discomfort such as temporary burning sensations, which were manageable and resolved quickly. Given its effectiveness in reducing infection rates, improving patient outcomes, and demonstrating cost efficiency, implementing chlorhexidine urethral cleansing before catheter insertion is a practical and impactful strategy for improving overall healthcare quality and patient safety.

Conflicts of interest related to this abstract: NONE

P-2141

Reducing External Ventricular Drain-Associated Sepsis: A Quality Improvement Initiative

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Introduction**Background:**

External Ventricular Drain (EVD) insertion is a common neuro-surgical procedure but carries a significant risk of infection, leading to increased morbidity, prolonged hospitalization, and higher healthcare costs. Infection rates vary widely, with reported incidences ranging from 0% to 22%. Prior to this intervention, our institution recorded a 29% infection rate in the preceding year of 2023, far exceeding global benchmarks. Evidence suggests that standardized infection prevention protocols can significantly reduce EVD-related infections.

Aim/Objective(s)

This Quality Improvement Project (QIP), Project REVDAS (Reducing EVD-Associated Sepsis), aimed to reduce post-operative EVD infection rates from 29% to 2% within six months through the implementation of an evidence-based EVD care bundle.

Methods:

A multidisciplinary team developed and implemented a structured EVD Care Bundle, emphasizing:

- Pre-procedure: Strict aseptic technique, broad hair clipping, and administration of antibiotics within 30 minutes of incision (vancomycin two hours prior).
- Insertion: Chlorhexidine-alcohol skin preparation with enforced drying time and double-gloving with outer glove change before handling the EVD.
- Post-procedure care: Standardized EVD tunneling (≥ 5 cm from insertion site), chlorhexidine-impregnated dressings, and restricted CSF sampling by trained staff using strict aseptic protocols.
- EVD removal: Aim for removal within ≤ 10 days where clinically feasible, with an early weaning strategy.

Results:

Following the introduction of the EVD Care Bundle, infection rates dropped from 29% to 1.9% during the trial phase over the course of a year. This reduction translated into estimated cost savings of SGD 224,169 in 2024, reducing prolonged ICU stays and additional surgical interventions.

Conclusion:

The implementation of a structured EVD Care Bundle successfully eliminated EVD-associated infections at our institution. Sustained adherence and institutional integration across multiple ICUs and neurosurgical units are key to maintaining these outcomes. This project serves as a model for infection prevention in neurosurgical practice, demonstrating the impact of structured, multidisciplinary quality improvement initiatives on patient safety and hospital efficiency.

Conflicts of interest related to this abstract: none

P-2142

Reducing Group and Crossmatch Errors in a Tertiary Academic Hospital in Singapore.

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Introduction

Group and Crossmatch (GXM) testing is a crucial three-step procedure that involves determining a patient's blood group, screening for red cell antibodies, and matching the patient's blood type to the most compatible donor units. While essential for transfusion safety, GXM testing is susceptible to errors that can lead to severe, potentially fatal complications of acute haemolytic transfusion reactions. These occur when ABO mismatched blood is transfused. A significant portion of these errors is due to mistakes during sample collection, many stemming from human factors. In the early 2000s in NUH, education-based interventions and mandatory handwriting of patient identifiers for GXM samples sustained a low rate of GXM errors¹. In 2022, a process change to affix GXM sample labels to sample tubes was introduced in conjunction with the introduction of a new Electronic Medical Records (EMR) system. The average error rate increased from 1.18% (2016–2021) to 1.63% (January 2022–September 2023).

Aim/Objective(s)

This project aims to identify the underlying causes of increased GXM error rates and implement targeted corrective measures to improve the safety and accuracy of transfusion practices. Through an analysis of workflows, staff training, and system-related factors, we will identify areas for improvement. The primary objective is to reduce the hospital's GXM error rate from 1.63% to 1.0% or lower within six months, enhancing the reliability of transfusion practices and ultimately improving patient outcomes while minimizing the risk of adverse reactions.

Methods

A multi-disciplinary team applied quality improvement methodologies such as Process mapping, an Affinity Diagram, and a Cause-and-Effect Diagram to identify causes, with a Pareto Chart prioritizing them. Interventions were designed using the Plan-Do-Study-Act model, with six interventions explored and five implemented. These included:

- (1) revised posters with a visually-appealing design, featuring a simplified process map, and enforcement of correct poster placement,
- (2) enhanced education by mandatory e-learning and video instructions on the proper GXM sample collection method, including the use of bar-code scanning for patient verification,
- (3) punitive measures such as mandatory counselling by a senior clinician, and letters to supervisors for major errors, and
- (4) technological improvements by incorporating reminders into the EMR system and enhancing electronic GXM sample labels with real-time visual cues.

Interventions were rolled out in October 2023, and sampling error data was prospectively collected and compared to pre-implementation data to assess effectiveness.

Results

Errors were categorized into major errors (e.g., wrong blood in tube), minor errors of significant impact (e.g., missing collector

information), and minor errors of less significant impact (e.g., missing collector signature). Prior to implementation, the mean rate of GXM errors was 1.38%, with major errors at 0.01%, minor errors of significant impact at 0.11%, and minor errors of less significant impact at 1.27%. Following the implementation of the new measures in this project, the mean rate of total GXM errors decreased by 59.1% to 0.57% ($p < 0.01$) between November 2023 and April 2024. During this period, the rate of major errors remained at 0.01% ($p = 0.98$), minor errors of significant impact decreased by 28.7% to 0.08% ($p = 0.24$), and minor errors of less significant impact decreased by 62.0% to 0.48% ($p < 0.01$). GXM error rates have continued to be monitored, with total GXM error rate consistently remaining below 1.0%. As of January 2025, the mean total GXM error rate post-implementation, from November 2023, stands at an even lower 0.41%.

Conclusion

This project demonstrates that the application of quality improvement methodologies, combined with the strategic use of technology, can lead to a significant reduction in GXM error rates. The results highlight meaningful improvements in the safety and reliability of blood transfusion practices, ensuring better patient outcomes. By addressing human factors, enhancing staff training, and leveraging technology through EMR system improvements, our interventions have significantly improved the accuracy of GXM testing and reduced the risk of potentially fatal transfusion reactions. This approach provides a replicable model for other healthcare settings aiming to enhance the quality and safety of transfusion services.

Conflicts of interest related to this abstract: None.

P-2143

Reducing inappropriate antibiotic use amongst inpatients with penicillin allergy

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Introduction

Penicillins and cephalosporins are important classes of antibiotics used for the treatment of a wide range of infections. Penicillin allergies are often over-reported – approximately 10% of patients report a penicillin allergy but less than 1% are truly allergic. The side effects of antibiotics such as nausea or diarrhoea are often confused with allergic reactions. Furthermore, 80% of patients with IgE mediated penicillin allergy lose their sensitivity after 10 years (1, 2). Penicillin and other beta-lactam allergies are associated with higher risk of *Clostridium difficile* infection, surgical site infections, and infections with drug-resistant organisms such as Methicillin-resistant *Staphylococcus aureus* (3-5). Cephalosporin use is often avoided in patients with penicillin allergies, due to similarities in side chains between penicillins and some cephalosporins. There is a much higher use of broad-spectrum and less effective antibiotics amongst patients with penicillin allergies, resulting in higher rates of treatment failure (4).

Aim/Objective(s)

The PEN-FAST score is a decision making tool to ascertain the risk of a true allergy in a patient who reports a penicillin allergy (6). It requires an assessment of the time since the allergic reaction, the type of allergic reaction and whether any treatment was required for the reaction to generate a score out of five.

Physician verified positive immune mediated oral penicillin challenge only occurred in 0.5% of participants with score of less than 3 (7). The aim of our project was to increase the use of cephalosporins amongst patients admitted under the department of medicine and department of surgery with a low-risk penicillin allergy (PEN-FAST 0-2) from 44.5% to 65%. We also aimed to assess the frequency of cephalosporin allergy in patients with a low risk penicillin allergy (PEN-FAST score of 0-2).

Methods

Patients with a low-risk penicillin allergy who were admitted for >48 hours and required antibiotics were included. We excluded patients who were allergic to cephalosporins, were clinically unstable or where the use of broad-spectrum or alternative antibiotics was culture-directed. We created a hospital-wide workflow on utilising the PEN-FAST score to identify patients who were suitable to receive cephalosporins (Figure 1). Automated “smart-phrases” to calculate the score were added on our hospital electronic records system. An electronic referral system to our antimicrobial stewardship (ASP) pharmacists was created, who guided physicians on how cephalosporins should be administered. This workflow was introduced over multiple department meetings, and amongst junior resident doctors during their compulsory teaching sessions. An automated list of patients in the hospital on second-line antibiotics (eg. Aztreonam, Clindamycin) was generated and reviewed by ASP pharmacists daily to identify suitable patients and interventions were placed on patients’ notes for the team’s consideration.

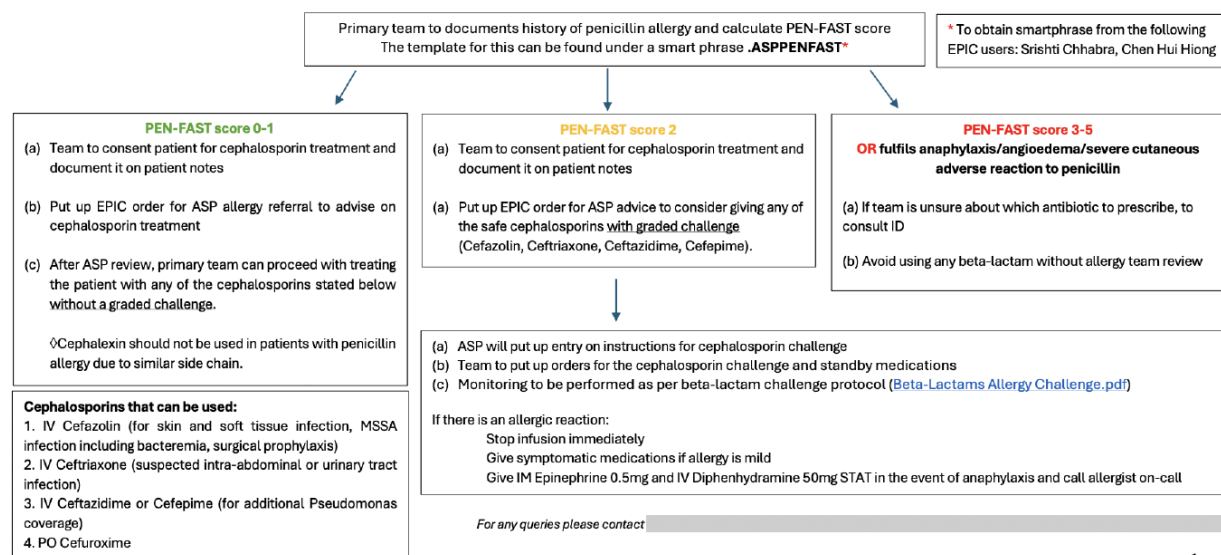
Results

Amongst patients admitted to the Department of Medicine and Department of Surgery from September – December 2024, we collected data within 4 subspecialties – General Medicine, Geriatric Medicine, General surgery and Colorectal surgery. Fifty-one patients with low-risk penicillin allergy received cephalosporins amongst the 4 selected subspecialties. Forty of these cases were identified by the primary team managing the patient, and 11 were identified through screening by ASP pharmacists. 21/51 (41.2%) had a PEN-FAST score of 0, 5/51 (9.8%) had a PEN-FAST score of 1 and 25/51 (49.0%) had a PEN-FAST score of 2. The percentage of patients who received cephalosporins increased from a median of 44.5% pre-intervention to 76.5% post-intervention (Figure 2), above our goal of 65%. None of the patients administered cephalosporins developed a reaction to it. Our pharmacists updated the electronic allergy records of 42/51 patients to state the the cephalosporin they had tolerated, for quick retrieval and appropriate antibiotic administration in future admissions.

Conclusion

The PEN-FAST scoring system is a safe tool to increase cephalosporin use amongst patients with penicillin allergy and can be utilised to reduce the overuse of broad-spectrum and less preferable antibiotics. The cost of inpatient antibiotic prescription alone can be USD 609 higher in patients with reported penicillin allergy (8), and within the 4 subspecialties we have assessed, we have potential savings of USD 93,177 per year. This does not include other cost savings as patients with penicillin allergy have been shown to have longer hospital length of stay, increased rates of readmission, and higher rates of *C difficile* infection. To ensure the sustainability of our project, we obtained support from ASP pharmacists who screen all admitted patients on second-line antibiotics (Aztreonam, Vancomycin, Clindamycin, Quinolones) in their day-to-day workflow, which allows identification of suitable patients who may have been missed by the primary teams. We have also done repeated education of our workflow and the safety of our results to improve physician knowledge and allay any fears of putting patients at harm.

Conflicts of interest related to this abstract: None



1

Figure 1. Hospital-wide workflow created to guide physicians on how to utilize the PEN-FAST score. This was made available on our hospital intranet. A referral system to antimicrobial stewardship (ASP) pharmacists was created, who reviewed the cases documented how to administer cephalosporins on patient notes.

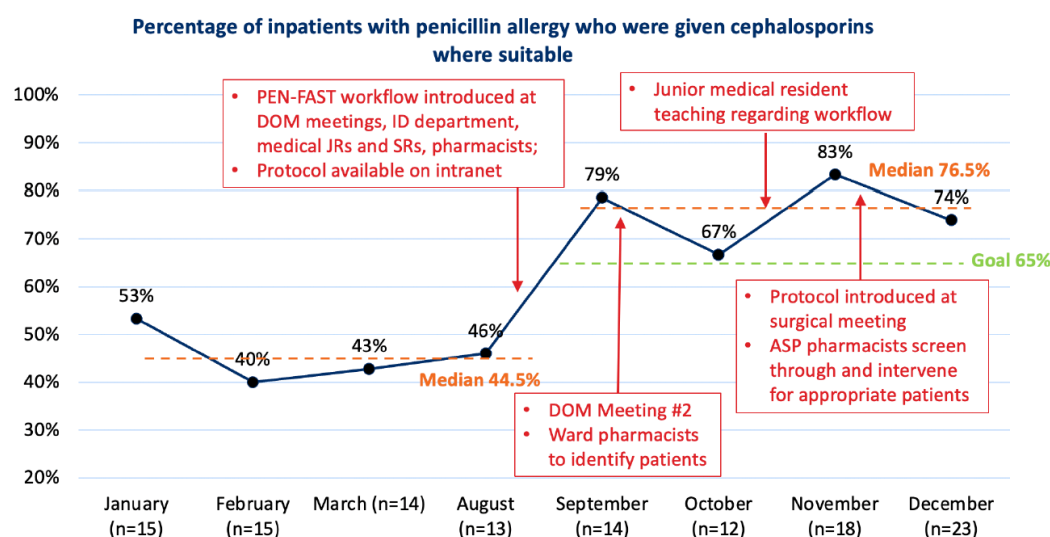


Figure 2. Percentage of inpatients with penicillin allergies who were given cephalosporins where suitable in 2024; pre- and post-intervention. This is a subset of patients from 2 medical (General Medicine, Geriatrics) and 2 surgical (General surgery, Colorectal surgery) departments. Red arrows indicate interventions introduced. DOM = Department of Medicine; ID = Infectious diseases; JR = Junior residents (doctors); SR = Senior residents (doctors); ASP = Anti-microbial stewardship.

P-2144

Reducing post-stroke urinary tract infection through protocolized bladder management

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Introduction

Urinary tract infection (UTI) is a common complication among ischemic stroke patients and is associated with poorer outcomes and increased healthcare cost. Post-stroke UTI is associated with a decline of neurological status during hospitalisation, longer length of hospital stay, and increased risk of disability or death at 3 months. An analysis of the ischemic stroke patients admitted to Singapore General Hospital's (SGH) acute stroke unit (ASU) in 2021 identified 30-day UTI rate as an area for improvement. Between 2020 and 2021, 9.0% of ischemic stroke patients developed UTI. Through chart reviews and using the 5-Why methodology, the main root cause identified was acute urinary retention, for which there was no current standard workflow for screening for post-stroke patients. In face of higher healthcare demands from an aging population and increasing healthcare costs, reducing avoidable complication is important in ensuring the sustainability of the healthcare system.

Aim/Objective(s)

We aimed to study if a nurse-led bladder management protocol would lead to a reduction of UTI within 30-days of ischemic stroke onset among patients who are admitted to SGH ASU over 12 months. Furthermore, we aimed to determine if there is any association between protocol adherence and UTI rate through a retrospective analysis of 30-day UTI rates as a ranked outcome in relation to compliance to the protocol.

Methods

Ischemic stroke patients discharged between January 2020 to January 2022 were included as baseline for comparison to the post-intervention cohort between February 2022 to February 2023. Patients discharged between March 2023 to December 2024 were monitored to track sustainability. A multidisciplinary team of nurses and doctors from Neurology, Urology, and Infection Prevention developed a bladder management protocol. This involved bladder ultrasonography with an algorithm to guide doctors and nurses on action to take based on the residual urine volume. Monthly UTI rates were ranked from highest and lowest, then grouped by quartiles and deciles to determine if protocol compliance as recorded by nursing staff was associated with lower UTI incidence. UTI were identified using International Classification of Diseases 10th Revision, Australian Modification codes. Statistical analyses were performed via R using Chi-squared test for categorical variables and Mann-Whitney U-test for continuous variables. The alpha for statistical significance was defined as $p < 0.05$.

Results

The 30-day UTI rate decreased from 9.0% pre-intervention to 5.6% post-intervention ($p < 0.001$). Compared to the post-intervention cohort, 30-day UTI rate was sustained at 5.6% for patients discharged between March 2023 to December 2024. Looking at ranked outcome, 30-day UTI rate was 4.0% in the top quartile and 7.4% in the bottom quartile, with the top quartile having significantly higher protocol compliance rate at 30.2% compared to 18.8% in the bottom quartile ($p < 0.001$). Similarly, 30-day UTI rate was 3.1% in the top decile and 6.3% in the remaining cohort, with corresponding protocol compliance rate at 33.6% and 23.1% ($p < 0.001$). In both analyses,

there were no differences in terms of age, sex, and diabetes status. NIHSS was however identified as a significant factor when comparing the top decile with the remaining cohort ($p = 0.008$).

Conclusion

The nurse-led bladder management protocol is effective in reducing UTI amongst ischemic stroke patients, which could help to reduce the risk of negative outcomes associated with post-stroke UTI. Adherence to the protocol is associated with lower UTI incidence and ensuring that is one of the key factors in the success of the implementation. With the proven effectiveness of this protocol, it can be adopted by other stroke units, as well as conditions with similar etiology. For sustainability, various strategies could be employed to ensure awareness and compliance to the bladder scan protocol including incorporation into the electronic medical record system.

Conflicts of interest related to this abstract: None

P-2145

Using the Real-time Intelligent Radiation Dose Monitoring System to Reduce the X-ray Retake Rate

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Introduction

X-ray imaging is one of the most commonly used diagnostic tools in clinical medicine due to its non-invasive nature and rapid imaging capabilities. However, improper equipment operation, patient mispositioning, or poor image quality often result in retakes, increasing patient radiation exposure and medical costs. According to international studies, the X-ray retake rate should be maintained below 5%, but some healthcare institutions experience higher rates due to technical factors or inadequate quality control, impacting healthcare quality and patient safety.

Aim/Objective(s)

This study aims to implement a real-time intelligent monitoring system that continuously tracks radiation dose and provides real-time alerts to improve radiologic technologists' (RTs) accuracy, reduce X-ray retake rates, and minimize patient radiation exposure.

Methods

A fully digital real-time X-ray radiation dose monitoring system was implemented in the radiology department of a medical center. Based on the International Commission on Radiological Protection (ICRP) guidelines, we established minimum, maximum, and threshold dose values for different X-ray examinations to provide radiologic technologists with real-time reference data. If an X-ray dose exceeded the preset threshold, the system issued an instant alert on both the RT's workstation and the image quality control center, ensuring compliance with the ALARA (As Low As Reasonably Achievable) principle. Additionally, an individualized training program was introduced for RTs with higher retake rates. Senior mentors provided one-on-one guidance, and follow-up discussions were conducted using the ADAPT (Ask-Discussion-Ask-Plan Together) method to evaluate training effectiveness. RTs who did not meet performance criteria underwent further coaching.

Results

1. The X-ray retake rate decreased from 7.65% in the first half of 2023 to 3.01% in the second half of 2024, a 60.65% reduction, significantly lower than international standards.

- Staff satisfaction reached 94.4%, while patient satisfaction was 95.2% in 2024, demonstrating improved work efficiency and patient experience.
- A total of 8 RTs underwent training, with only one requiring additional coaching due to an OSCE (Objective Structured Clinical Examination) score below 80%. This RT later improved and passed the assessment.
- Labor cost savings: Fewer retakes reduced RT workload, saving 2 working hours per day, amounting to over NT\$180,000 annually in labor costs.
- Economic benefits: Enhanced imaging accuracy and reduced exposure errors minimized equipment overuse, saving approximately NT\$730,000 annually in medical costs.

Conclusion

The real-time intelligent monitoring system effectively reduced X-ray retake rates and patient radiation exposure while improving healthcare quality and workforce efficiency. This system enhanced RTs' accuracy in dose control and, through real-time alerts and personalized training programs, significantly improved technical performance and image quality. Furthermore, its data management functionality established a long-term quality monitoring mechanism to ensure safety and efficiency in radiological diagnosis. Future recommendations include expanding this system to other imaging modalities (such as CT and MRI) to further optimize medical imaging quality, enhance patient safety, and improve resource utilization.

Conflicts of interest related to this abstract: None

P-2146

Revamped hepatitis vaccination programme for renal patients

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Introduction

Patients with chronic kidney disease (CKD) are at risk of hepatitis infections. Loss of protective antibodies may occur in kidney transplant recipients or patients on dialysis. Prioritization of resources to tackle the COVID-19 pandemic undermined local efforts on hepatitis screening and vaccination programs that had operated for years to optimize patients' protection, albeit lack of international consensus on screening schedule and booster vaccination regime. Suboptimal herd immunity increased risks of sporadic nosocomial outbreak.

Aim/Objective(s)

Revamp the hepatitis B vaccination programme of all dialysis patients and enhance hepatitis control in the renal unit of CMC

Methods

We embarked on a continuous quality improvement (CQI) initiative with an aim to improve individual and centre control of hepatitis. The hepatitis B vaccination guideline for CKD patients was re-written and expanded in December 2023 to include non-vaccination infection control measures in the high-risk HD suite, such as hepatitis surveillance and machine allocation. All kidney transplant recipients should have yearly screening of HBsAg, Anti-HBs and anti-HCV while all dialysis patients were screened with an individualized scheduled as determined by their hepatitis serostatus. A dedicated renal nursing team, led by an Advanced Practice nurse (APN) and supervised by the renal team head was responsible for reviewing all patients' vaccination history and serostatus, scheduling blood taking and recommending vaccination regimes. Documentation of the recommendations as non-consultation notes served as reminders

to doctors in the patients' next clinic visit. The APN keep track of patients' vaccination progress subsequently.

Results

From January to July 2024, we performed hepatitis screening and vaccination history review on 312 peritoneal dialysis patients, 68 HD patients and 51 transplant recipients. The APN identified 143 patients for hepatitis B vaccination, proposed the regimes and documented them in the CMS. The renal doctor prescribed vaccination according to the prescription in 46.2 % of the cases. Vaccine prescription was temporarily skipped by doctor in 53.8% of cases due to lack of time in a busy clinic. After the interim analyses and engagement, all doctors were aware of the programme, appreciated nurses' contribution and believed the program would lead to better patients' care.

Conclusion

This CQI project would ultimately improve hepatitis B vaccination programme effectiveness. Collaboration between renal nurses and doctors would be the key to success.

Conflicts of interest related to this abstract: None

P-2147

Same Day Discharge Post Mastectomy

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Introduction

Traditionally, mastectomy patients remained hospitalized for 1–2 nights post-surgery, increasing infection risks, delaying recovery, and straining hospital resources. While Enhanced Recovery After Surgery (ERAS) principles benefited other procedures, their application to mastectomies remained inconsistent. The COVID-19 pandemic further underscored the need for outpatient surgical management due to bed shortages, accelerating the adoption of Same-Day Discharge (SDD). In response, the breast surgery team at NUH developed a structured SDD program, integrating a multidisciplinary approach involving surgery, anesthesia, nursing, and physiotherapy. The program standardized workflows to ensure patient safety, introduced tele-visits and scheduled follow-ups for continuity of care, and optimized resource use. By enabling home recovery, it enhanced psychological well-being and patient satisfaction while minimizing hospital-acquired infections. Evidence shows no significant differences in readmission rates, wound complications, or emergency visits between SDD and traditional mastectomy care, reinforcing its feasibility and safety.

Aim/Objective(s)

This project aims to implement a Same-Day Discharge (SDD) program for post-mastectomy patients, ensuring a safe, efficient, and structured transition to early discharge. The initiative focuses on optimizing workflows, enhancing patient education, and strengthening multidisciplinary coordination to maintain high standards of care while reducing hospital stays. System modifications were introduced to support seamless implementation and patient safety. To evaluate the program's effectiveness, key performance metrics were established:

- SDD Success Rate – Measure the percentage of patients successfully discharged on the same day.
- Post-Operative Safety – Monitor post-operative complication rate.
- Readmission Tracking – Assess the rate of emergency department and hospital readmissions within one month.
- Cost Efficiency – Analyze average cost savings per patient.

By achieving these objectives, the project aims to demonstrate the feasibility and benefits of SDD in a tertiary care setting while ensuring positive clinical outcomes.

Methods

This study employed a retrospective cohort design to evaluate the feasibility, safety, and patient outcomes of same-day discharge following mastectomy. Data were collected from patients who underwent mastectomy and agreed to participate in same day discharge programme at NUH, Singapore between April 2023 to March 2024. Inclusion criteria included adult patients undergoing total mastectomies with or without sentinel lymph node biopsy, aged below 65, deemed medically fit by anaesthetists for same day discharge. Patients requiring immediate breast reconstruction, those with significant comorbidities, or intraoperative complications were excluded. Clinical protocols were standardised to ensure patient safety, including preoperative assessment and education, multimodal analgesia, post-operative follow up and early ambulation strategies. Post-operative complications, readmission rates, and cost savings were assessed through electronic medical records and follow-up consultations at one week and one month postoperatively. Statistical analysis was conducted using Microsoft Excel 2020.

Results

The same day discharge program was implemented using a multi-disciplinary collaboration and a bundled approach to improve post-mastectomy care. The team developed a structured workflow ensuring safe and efficient SDD:

1. Patient Identification & Counselling – Surgeons and breast care nurses identified eligible patients and provided structured pre-operative education.
2. Pre-operative Preparation – Anaesthetists evaluated fitness for SDD, planned anaesthesia, and coordinate with physiotherapists and ward nurses.
3. Surgery Day – Patients were scheduled in the morning; standardized medication orders were applied.
4. Post-operative Care – Physiotherapists reviewed patients before discharge, surgeons conducted final assessments, and ward nurses followed a discharge checklist.
5. Follow-up Care – Nurses conducted tele-visits on post-operative day 2, nurses performed in-person reviews on day 5, and surgeons reviewed patients at 2 weeks.

Post-implementation of same day discharge programme till March 2024 showed an overall success rate of 57% (21 out of 37 patients) for SDD, with notably zero post-operative complications and no readmission to ED or hospital within 30 days. Additionally, there was a 100% completion rate of inpatient medical review sessions, ensuring comprehensive care for all patients. The average cost saving per patient was approximately \$4,800 – \$5,800 post implementation of SDD program.

Conclusion

The adoption of the SDD program at NUH has progressed through two phases. The initial phase (April 2023–March 2024) focused on unilateral mastectomy patients, while the ongoing second phase (from March 2024) introduced an ultra-short stay option and expanded eligibility to patients over 65 and those undergoing bilateral mastectomies. Although SDD has been implemented in Western countries, its adoption in Asia remains limited. NUH's program represents a pioneering effort in the region, transforming mastectomy care by reducing hospital stays and improving resource use. It has proven safe and feasible for selected patients, addressing hospital-acquired infections, delayed recovery, and bed shortages through structured workflows, discharge criteria, and a multidisciplinary approach. Enhancements such as pre-operative education, tele-visit follow-ups, and a streamlined discharge process have contributed to low complication and readmission rates. This project demon-

strates that with proper patient selection, education, and coordination, SDD can be successfully implemented in an Asian tertiary care setting. Future efforts will refine selection criteria, enhance pre-operative education, and explore expansion to other hospitals globally, further establishing its viability in diverse healthcare systems.

Conflicts of interest related to this abstract: None

P-2148

Standardizing and Optimizing Hospital at Home (H@H) through Lean Management: A Multi-Hospital Implementation Model.

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Introduction

Hospital at Home (H@H) is an effective alternative to inpatient care, allowing high-quality, patient-centered treatment in home settings. However, existing H@H models vary across hospitals, leading to inefficiencies and inconsistencies in care delivery. This project, a collaboration between four healthcare institutions in Catalonia, applies Lean Management principles to standardize H@H services, improve workflow efficiency, and enhance patient safety. The integration of digital tools and real-time process optimization ensures a seamless coordination between professionals, reducing delays in patient care, making it more easy. The use of patient experience methodology ensures the patient centered.

Aim/Objective(s)

The primary objective is to develop a standardized and efficient H@H model that optimizes resource allocation, reduces variability in service delivery, and improves healthcare outcomes. By implementing Lean methodologies, we aim to:

- Minimize waste and streamline patient admission, monitoring, and discharge.
- Improve interprofessional communication through digital platforms and automated workflows.
- Enhance patient experience via remote monitoring, predictive alerts, and personalized care plans.

Methods

Using Value Stream Mapping (VSM) Kaizens and A3s, we analyzed existing H@H processes across institutions. Key interventions include:

- Implementation of a single digital platform: A unified electronic health record (EHR) with real-time updates, shared across institutions and as well connected with patients and relatives, giving them the possibility to be part of the process.
- Optimized logistics: Automated planning of medication, equipment, and transport routes.
- Remote patient monitoring: Continuous tracking of vitals, alerts for anomalies, and telemedicine interventions.
- Process standardization: Unified protocols for referrals, interconsultations, and patient follow-ups.

- A multidisciplinary team (physicians, nurses, other specialists, and administrators) was involved in the process refinement.

Results

The implementation of a standardized H@H model is expected to improve workflow efficiency and patient care by:

- Reducing variability in admission, monitoring, and discharge processes.
- Enhancing coordination among healthcare teams through digital integration and automated workflows.
- Improving patient safety by enabling early detection of complications via remote monitoring.
- Optimizing resource allocation, ensuring that medical staff and logistics are used more efficiently.
- Increasing patient and caregiver engagement, offering real-time access to health information and communication tools and proposing actions.

These improvements are expected to result in greater continuity of care and a more sustainable H@H model. Further evaluation will assess the impact on healthcare outcomes and cost-effectiveness.

Conclusion

Applying Lean Management to H@H offers a structured and scalable model for optimizing home-based care. This project demonstrates that digital transformation and standardized workflows can enhance patient safety, reduce inefficiencies, and improve healthcare resource utilization. The methodology developed can be replicated across different healthcare systems, contributing to a more sustainable and patient-centered approach to H@H services.

Conflicts of interest related to this abstract: None

P-2149

Strengthening the Quality and Safety Culture: An Innovative E-Learning Program to Optimize the Reporting of Adverse Events

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Introduction

Identifying, analysing and correcting incidents occurring during patient care is an essential part of safety improvement strategies in hospitals. Since 2000, the HUG has implemented a structured electronic reporting system to enable staff members to report adverse events, analyse causes and implement corrective actions. These are managed by 80 separate teams in the different divisions, representing altogether 400 professionals in charge of incident management. This has led to a large diffusion and use of the system throughout the hospital with the number of reports increasing from 250 in 2000 to over 7,000 nowadays. This reflects a strong safety culture. However, the overall system has also gained in complexity and we noticed a recent decrease in the usage of the system due to a lack of training in its use. To correct this, we decided to develop a specific ad hoc training course available to all staff members of the hospital.

Aim/Objective(s)

The aim of this project was to develop a training course for all hospital staff members to support and enhance the use of the electronic incident reporting system. To make its availability as large as possible we chose the format of an interactive e-learning teaching module.

Methods

The e-learning training course was developed through a collaborative and structured process involving different experts of the hospital quality-of-care division, the quality officers' team and the hospital training centre. It incorporates all institutional guidelines and procedures related to incident reporting and is structured around the answers to 4 essential questions around incidents: Who, When, How and Why. To provide an immersive experience, scripted simulations are integrated, allowing learners to confront themselves to real-life situations. This training course is the first step of a larger three-level full global training programme in risk management for professionals. Accessible online, it guarantees flexibility in training and adaption to employees' time constraints. By standardising learning and facilitating access to training, it also contributes to strengthening organisational safety culture and improving responsiveness to incidents.

Results

The impact of the e-learning training course is currently under assessment. We are measuring a number of key indicators such as level of participation, participants satisfaction and individual scores to a final quiz assessing overall understanding of the different concepts covered during the course. A specific follow-up is also planned with all members of incident teams to collect their feedback on overall "literacy" on incident reporting and management at institutional level. This will also help us to identify hospital departments or divisions where greater support is required for improved use of the incident reporting system.

Conclusion

The development of this e-learning training course will contribute to improve the use of hospital incident reporting system and contribute to the strengthening of safety culture at the HUG. By standardizing knowledge provided and offering flexible training, it meets the needs of all employees, while optimizing time resources available for training. The large involvement of different stakeholders at hospital level guarantees that the training program fits to the different needs and expectations of all. The integration in the course of immersive scenarios and interactive tools guarantees that key concepts are integrated while ensuring active engagement of professionals. Ultimately, this initiative could be extended to other institutional risk management projects and become a training model for such programs. By promoting the reporting of incidents and the learning of best practices, this project contributes to the continuous improvement of patient care and the strengthening of a safer hospital environment for all.

Conflicts of interest related to this abstract: None

P-2150

Surveillance of surgical site infections: the experience of an Italian Teaching Hospital

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Introduction

Healthcare-associated infections (HAIs) are prevalent adverse events in all care settings, affecting 5–15% of hospitalized patients. Among them, surgical site infections (SSIs) are the most frequent and costly, leading to higher morbidity, prolonged hospital stays, increased readmissions, and greater healthcare

expenditures. Implementing robust, standardized surveillance programs is essential for monitoring, preventing, and reducing SSIs, yet their adoption, consistency, and effectiveness vary significantly across healthcare institutions, impacting patient safety and clinical outcomes. Strengthening infection control strategies, optimizing surveillance protocols, and enhancing healthcare worker training can significantly improve patient care, reduce costs, and mitigate the burden of SSIs worldwide.

Aim/Objective(s)

This study aims to assess the trends of SSIs at Ferrara Teaching Hospital for providing useful data to improve surveillance systems.

Methods

A retrospective study was conducted on data of SICHER surveillance system and Hospital Discharge Cards (HDCs) of Ferrara Teaching Hospital from 2020 to 2023. From the total procedures, those under monitoring were selected based on the guidelines of the Technical Document from the Italian National Institute of Health called "National Surveillance of Surgical Site Infections (SNICH2) and Prevention Indicators in Hospitals". For these procedures the total number of those performed, the number of SSIs, and the number of follow-up days (postoperative inpatient days with a known discharge date) were extracted. To evaluate the phenomenon, two key indicators were calculated: SSIs Percentage by Category (infection rate per procedure) and Incidence Density of Hospital-Onset SSIs (hospital-detected infections per follow-up days). The analysis was conducted using STATA software.

Results

In the studied period the average number of SICHER procedures was $5,751.3 \pm 261.2$, peaking in 2023 (6,087) and lowest in 2020 (5,375). Coverage of monitored procedures remained higher than 75%, reaching 80.7% in 2023. HDCs match improved yearly, reaching 97.2%. An improving trend in SICHER coverage was observed only for colon procedures, while laminectomy and cholecystectomy showed higher coverage in the final year compared to the first. The total SSIs were 57.75 ± 18.08 , while for monitored procedures were 15.5 ± 5.07 . The highest infection rates were observed for colon surgery, followed by cesarian sections and hip arthroplasty, while cardiac surgery consistently recorded no infections. The overall incidence density of hospital-onset SSIs was 0.18 per 1,000 follow-up days, with significant variations across surgical categories. The colon procedures always showed a density higher than the hospital average, while hip arthroplasty and cholecystectomy remained consistently below.

Conclusion

The study demonstrates a growing improvement in SSIs surveillance coverage and accuracy, confirming the effectiveness of SICHER in infection monitoring. However, differences in infection rates across procedures highlight the need for targeted interventions, especially for high-risk surgeries such as colorectal and orthopaedic procedures.

Conflicts of interest related to this abstract: None

P-2151

The AMAL Initiative – Hope and Healing: A Holistic Approach to Wellbeing in Healthcare Providers

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Introduction

Healthcare workers are the cornerstone of any healthcare organization. Research indicates they may face an elevated risk of specific cancers due to potential occupational exposures¹⁻⁵. Moreover, their wellbeing directly influences the quality of patient care, organizational performance, and overall healthcare outcomes⁶⁻⁸. Despite their critical role, when these staff members confront serious health challenges, such as cancer, the support they receive may be fragmented and inadequate. In response to this gap, the Amal Initiative – named after the Arabic word for "hope" – was launched at Cleveland Clinic Abu Dhabi. This comprehensive wellness program is designed specifically for staff, known as "caregivers," diagnosed with cancer and aims to provide holistic, compassionate care tailored to their needs.

Aim/Objective(s)

To support caregivers diagnosed with cancer by providing a structured, compassionate support system that addresses their unique physical, emotional, and professional needs, and to demonstrate the potential impact of such an approach on their overall wellbeing and professional sustainability.

Methods

The Amal Initiative is built on five core pillars of caregiver wellness:

- Support Group: An agenda-driven support group offering a safe space for caregivers to share experiences, ask questions and foster community. The group is led by a multidisciplinary panel of experts, including an oncologist, psychiatrist, occupational health physician, survivorship physician, social worker, Human Resources (HR) representative, and expert patient.
- Access to Community Resources: Social worker-facilitated connections to external services, such as meal provision and transportation assistance.
- Compassionate HR Policies: Flexible and extended sick leave management tailored to the evolving needs of caregivers undergoing treatment.
- Occupational Health Support: Personalized workplace adjustments enabling caregivers to maintain productivity while prioritizing their recovery.
- Mental Health Services: Access to group and individual therapy promoting emotional resilience and psychological wellbeing.

Inclusion Criteria: All caregivers identified within the first three months of diagnosis of cancer are eligible to participate in the program.

Results

Although final results are pending, initial feedback indicates favorable uptake of the program, supported by strong leadership endorsement. To assess the program's effectiveness, we plan to conduct post-intervention surveys and analyze key performance metrics, including:

- Caregiver satisfaction with organizational support
- Perceived impact on work-life balance and stress management

- Utilization rates of support services (support groups, mental health services, social work resources)
- Retention and engagement rates among participating caregivers
- Frequency and success of workplace adjustments
- Psychological wellbeing scores pre- and post-intervention

Conclusion

The Amal Initiative exemplifies innovative organizational wellness by addressing the multifaceted needs of healthcare workers facing serious illness. Through its holistic approach, the program fosters hope and healing, enabling caregivers to continue their professional journey with dignity and support. This model can serve as a blueprint for other healthcare organizations striving to prioritize workforce wellbeing and sustainability.

Conflicts of interest related to this abstract: None

P-2152

Correlation of Mean Platelet Volume (MPV) with Platelet Recovery Among Dengue Patients: A Retrospective Study

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Introduction

Dengue is the most rapidly spreading mosquito-borne viral disease in the world with increasing global incidence. The need to investigate the platelet profile is vital in the assessment of the disease process. Determining the correlation of mean platelet volume (MPV) with platelet recovery among dengue patients can be of great help in limiting morbidity & mortality associated with dengue fever. Medical records of 162 pediatric patients aged 18 years old and below admitted in Dr. Jose N. Rodriguez Memorial Hospital and Sanitarium from January 1, 2019 till December 31, 2019 who satisfied the inclusion and exclusion criteria were collected. Socio-demographic data (age, sex and residence), dengue classification, and laboratory and serologic profiles were recorded. Correlation of MPV and platelet count were determined. Association of MPV and treatment outcome in patients under different dengue categories were studied.

Aim/Objective(s)

General Objective: to determine the correlation of Mean Platelet Volume (MPV) in predicting platelet recovery in pediatric patients with dengue admitted in Dr. Jose N Rodriguez Memorial Hospital and Sanitarium from January 1, 2019 to December 31, 2019.

Specific objectives:

- To characterize the baseline profiles of patients in terms of the following:
 - Socio-demographic characteristics
 - Dengue classification according to severity upon admission
 - Laboratory and Serologic Profiles
- To correlate MPV and platelet count with platelet recovery
- To determine the association of MPV with treatment outcome in patients under different dengue categories

Methods

Subjects: The target population included children 18 years old and below admitted from January 1, 2019 to December 31, 2019

Inclusion Criteria:

Subjects included in the study were 18 years old and below with serological positivity (NS1 antigen and Dengue Duo test) and with a final impression of dengue fever with warning signs and

dengue severe. Completeness of medical records was one of the inclusion criteria.

Results

A total number of 162 children fulfilled the selection criteria. Table 1a shows the distribution of dengue cases according to sex, residence, severity and age. The table includes the baseline indices or the mean platelet count, WBC, hematocrit and MPV upon admission. Males were in higher proportions than females (56% and 44 %, respectively) showing M:F = 1.3:1 but difference in population is considered to be statistically insignificant ($p = 0.6523$). Cases were high among adolescents and were highest in 10 – 13 years old (30%). There were no subjects for the youngest and oldest age groups (at <29 days and 18 years old, respectively). The age of the study group ranges from 5 months to 17 years old with a mean age of 9.67 ± 4.21 . Moreover, patients were classified based on where they live. GMA residents dominated than non-GMA residents at 73% and 27%, respectively. Of the 162 dengue cases, there were more pediatric cases classified under dengue with warning signs (DWWS) (82%) than dengue severe (DS (16 %). By conventional criteria, this difference is considered to be statistically significant ($p = 0.0491$). Greatest distribution of DWWS and DS were observed among 10 – 13 years old.

Conclusion

Early diagnosis and timely intervention can reduce the mortality due to severe dengue infection. This study intended to determine the correlation of MPV in predicting platelet recovery in pediatric patients with dengue. Characterization of patients was done to provide background information on patients' profile. Although majority of the patients were male, no statistical significance was found in the population distribution according to sex. Likewise, comparison between sex and severity showed no statistical difference. An inverse relationship was seen between MPV and platelet count when values were plotted in a graph. Furthermore, this finding was supported by statistically significant result of the simple linear regression conducted giving emphasis on the decrease in MPV per unit increase in platelet count. This may suggest that MPV could be correlated with the platelet count recovery. Although the outcome presented in this study was recovery alone, a significant difference in MPV at time of minimal platelet count and at time of discharge was seen, regardless of severity, DWWS or DS.

Conflicts of interest related to this abstract: None

P-2153

The Explorations of Care Needs, and Quality of Life in Colorectal Cancer Survivors from a Regional Hospital

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Introduction

Colorectal cancer (Colorectal cancer, CRC) is the most common cancer worldwide, with a mortality rate of 12.9%. With the improvement of multiple cancer treatment models and medical care quality, the first-year and five-year survival rates of CRC are 81.7% and 55.3%, respectively.

Research has found that the 5-year survival rates of early-stage colon and rectal cancer patients after treatment are 65.6% and 60.6% respectively (Aguar & Junior, 2020). However, acute survival period after completion of treatment, survivors often time suffer from symptoms distress such as pain, nausea and vomiting, diarrhea, and fatigue.

Therefore, understanding the care needs and quality of life (QOL) of survivors after acute treatment for healthcare providers is essential, thereby improving the quality of care for this population.

Aim/Objective(s)

With the improvement of multiple cancer treatment models and medical care quality, CRC is first-year, and five-year survival rates are 82.5% and 56.6%. This study explores, The Explorations of Care Needs, and Quality of Life in Colorectal Cancer Survivors from a Regional Hospital. Therefore, understanding the care needs and quality of life (QOL) of survivors after acute treatment for healthcare providers is essential, thereby improving the quality of care for this population.

Methods

This descriptive study with a pre-posttests design was CRC survivors with II and III stages of CRC after completion of treatment were assessed with the EORTC QLQ-CR29 questionnaire, and cancer survivors CaSUN at the first month (M1) and the third month (M3)

Results

A total of 60 CRC survivors were included in this study. The results showed that the number and strength of unmet care needs, and QOL gradually improved, and there was solely a statistically significant difference in the symptom dimension of QOL measure ($p = 0.000$). the project and intensity of unmet needs were significantly different ($p = 0.01$) among those under 60 years old, above high school, receiving adjuvant chemotherapy, and those with artificial enterostomy ($p = 0.01$).

Conclusion

This study found that CRC survivors gradually improved regarding the numbers and intensity of unmet care needs and QOL over time. suggested that the healthcare team established medical care-related information or health information to meet the customized care needs of CRC survivors, so the continuum of care could be enhanced, thereby improving their QOL and quality of care.

Conflicts of interest related to this abstract: None

P-2154

The Hidden Driver of Patient Safety Culture: Unveiling the Impact of Organizational Culture

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Introduction

Patient safety remains a critical priority in healthcare, requiring continuous efforts to reduce risks and improve care quality. In our hospital, regular assessments help identify both strengths and areas for improvement. The 2022 Patient Safety Culture (PSC) assessment, conducted using the hospital version of the Surveys on Patient Safety Culture (SOPS®), showed varying perceptions, ranging from 40% to 74% across different dimensions. Teamwork, a learning-oriented culture, and continuous improvement emerged as key strengths. However, challenges were noted in staffing, response to errors, and hospital management support, accounting for nearly half of the negative responses. The lack of a qualitative approach limits a deeper understanding of these perceptions. Evaluating PSC is essential for driving meaningful improvements and implementing recommendations that foster a positive culture, ultimately enhancing patient safety and care quality.

Aim/Objective(s)

This research explores the impact of organizational culture on Patient Safety Culture (PSC) at KSMC. The primary objective is to assess improvements in PSC by comparing the 2024 survey results with those from 2022.

Based on the 2022 findings, we implemented a multi-component program to enhance PSC, including:

- Adoption of "AMAN", an electronic incident reporting system, replacing the manual paper-based surveillance.
- Implementation of "Walkround"® and daily nursing managerial rounds to support nurses, who comprise 50% of our workforce and reported significant PSC challenges.
- Development of advanced training programs for middle nurse managers and quality officers.
- Regular acknowledgment of achievements through initiatives like "Good Catches" (reporting near misses), harm reduction strategies, and "Safety Huddles" with staff recognition.

By evaluating these interventions, this study aims to measure their effectiveness in fostering a stronger safety culture and improving patient care.

Methods

This study employs both qualitative and quantitative methodologies. The qualitative approach involves a case study based on Hofstede's five cultural dimensions, exploring how organizational culture influences patient safety culture. An open-ended online questionnaire was distributed to healthcare practitioners, allowing them to provide in-depth insights into safety practices, teamwork, communication, and leadership. The responses were analysed using thematic analysis, identifying patterns and themes that reflect the cultural factors influencing patient safety. The quantitative approach was based on the same cross-sectional survey used in 2024 with the SOPS tool to assess healthcare professionals' perceptions of safety culture across various units. The survey was distributed online, and statistical techniques were employed to analyse safety culture dimensions, including teamwork, staffing, and error response. Both methodologies were integrated to provide a comprehensive understanding of the PSC at KSMC, and the impact of the multi-component program on its improvement.

Results

The overall Patient Safety Culture (PSC) score improved from 60.09% in 2022 to 63.51% in 2024 (Figure 1). In 2022, no dimension was considered fully developed ($\geq 75\%$ positive score). However, in 2024, "Teamwork" and "Learning Organization and Continuous Improvement" reached developed status, exceeding 75% positive responses. Although staffing and response to errors showed slight improvements, they remained underdeveloped, with positive scores still below 75%. Staff perception of hospital management support improved from 55.62% to 60.20%. Other dimensions also showed positive trends, particularly "Clinical Leader Support for Patient Safety" and "Communication Openness," which both increased by over 5%. While the quantitative results show improvements in PSC, the qualitative findings highlight ongoing challenges that still affect safety culture. Hierarchical structures and high-power distance hinder open communication, limiting error reporting (37.2% response rate, 62% feared retaliation). Leadership style significantly impacted safety culture, with authoritarian leadership discouraging staff from voicing concerns. Resistance to safety initiatives was noted, often due to financial constraints and entrenched norms, with new procedures initially met with opposition before acceptance. Burnout and stress also negatively influenced decision-making, with over 70% of respondents reporting workload-related fatigue affecting safety.

Conclusion

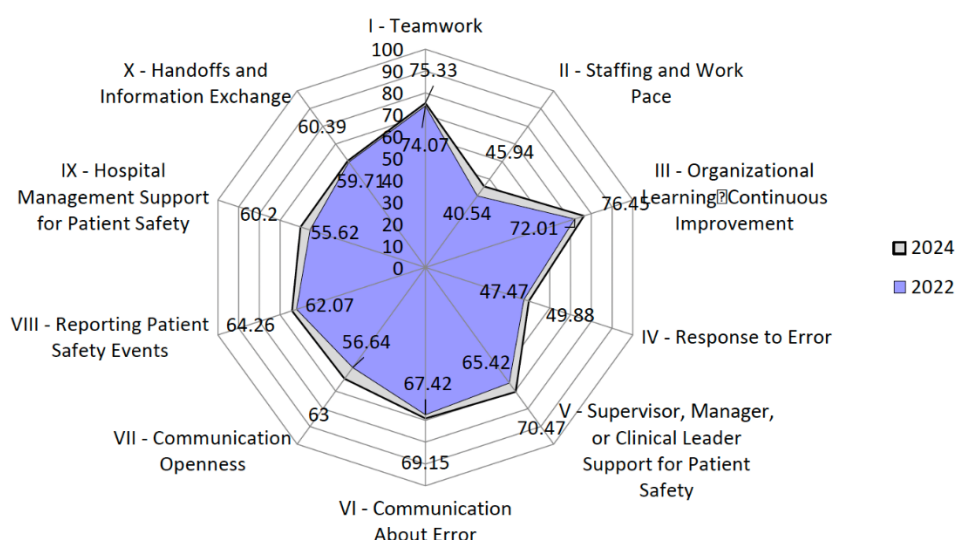
The findings of this study underscore the critical role of organizational culture in patient safety, highlighting barriers such as hierarchical structures, leadership dynamics, resistance to change, resource limitations, and staff well-being. These challenges must be addressed to improve healthcare services and foster a culture where patient safety is prioritized. To drive

meaningful change, cultivating psychological safety is essential. This would enable open communication and proactive error reporting, which are key to improving safety outcomes. Leadership training should focus on transformational and shared leadership models to empower staff and bridge communication gaps between front-line workers and management. Moreover, strategic resource allocation is crucial to ensure that financial decisions align with patient safety priorities. This research makes a significant contribution to policy and practice by advocating for culturally tailored safety interventions, especially

in high-power-distance environments. It also promotes a shift from compliance-based safety models to learning-driven frameworks that emphasize continuous improvement. Future research should examine the impact of organizational culture on patient safety across various healthcare settings using mixed-methods approaches to gain more nuanced insights.

Conflicts of interest related to this abstract: None

Figure 1: Dimensions of Patient Safety Culture survey as assessed by the hospital version of the Surveys on Patient Safety Culture (SOPS®) (2024 versus 2022)



P-2155

The Impact of the Pay-for-Performance Program on COPD Patients in Taiwan

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Introduction

In order to enhance the clinical outcomes of patients diagnosed with chronic obstructive pulmonary disease (COPD) in Taiwan, the Bureau of National Health Insurance (NHI) and the Joint Commission of Taiwan (JCT) jointly introduced a comprehensive Pay-for-Performance (P4P) initiative, tailored for COPD. This initiative, which is known as the Disease-Specific Care – Chronic Obstructive Pulmonary Disease (DSC-COPD) certification program, was launched in April 2017. The primary objective of the program is to provide hospitals and healthcare professionals with financial incentives that promote the adoption of patient-centered care models. These models emphasize the importance of personalized treatment plans, enhanced patient monitoring, and improved management of COPD cases. Through this strategic approach, the DSC-COPD program aims to foster a healthcare environment that prioritizes not only the

quality of care but also the long-term outcomes for COPD patients, ultimately improving the overall value of healthcare services and enhancing the health and well-being of COPD

Aim/Objective(s)

In order to gain a more comprehensive understanding of the effects of the DSC-COPD certification program, we undertook a detailed study aimed at evaluating the impact of this multidisciplinary intervention on the clinical outcomes of patients with COPD. The study focused specifically on COPD patients treated at Cardinal Tien Hospital, as well as at three Chi Mei hospitals, which have been actively involved in the implementation of the program. Through this research, we sought to assess how the integrated, patient-centered care approach promoted by the program has influenced key clinical indicators, treatment effectiveness, and overall health improvements for individuals suffering from COPD. By examining the results across these diverse healthcare settings, we aimed to provide valuable insights into the program's success in enhancing the management of COPD and its potential to serve as a model for broader application within Taiwan's healthcare system.

Methods

Pulmonologists enrolled patients who exhibited symptoms and had a history of exposure to risk factors. COPD was diagnosed based on a lung function test, with a post-bronchodilator FEV1/FVC ratio of less than 70%. Once enrolled, patients were instructed to continue regular therapy and attend follow-up visits every three months. Patients in the P4P program received a comprehensive range of pharmacologic and non-pharmacologic

logic interventions, including a tailored physical exercise program for COPD patients, smoking cessation support, and coordinated education on self-care and exacerbation prevention. COPD exacerbations were defined as severe episodes that required hospitalization or an emergency department visit. The Taiwan COPD Clinical Treatment Guideline was followed to ensure a standardized approach for physicians and to provide evidence-based recommendations for the treatment of COPD. Clinical data, including signs and symptoms, initial and follow-up spirometry results, exacerbation frequency, and medication use – especially inhaled bronchodilators – were retrospectively collected for analysis.

Results

A total of 1,081 patients were included in this study. Of these, 424 (39.2%) were classified as COPD Group A, 287 (26.5%) as Group B, 179 (16.6%) as Group C, and 191 (17.7%) as Group D. Based on their baseline spirometry, the majority of COPD patients were classified as GOLD grade 2 (51.6%). Only 31 (2.9%) patients were classified as GOLD grade 4. The average age of participants was 70.6 ± 9.9 years, with 85.4% ($n = 923$) of them being male. Hypertension was the most common co-morbidity ($n = 449$, 41.5%), followed by cardiovascular disease ($n = 337$, 31.2%). Additionally, 864 patients had a smoking history, and 556 had quit smoking. Dual therapy with long-acting β_2 -agonists (LABA) and long-acting muscarinic antagonists (LAMA) was the most commonly used inhaled bronchodilator ($n = 477$, 44.1%). After one year of intervention, 374 (34.6%) and 323 (29.9%) patients experienced an increase of more than 100 mL in their pre- and post-bronchodilator FEV₁, respectively. The mean changes in the COPD Assessment Test (CAT) and modified British Medical Research Council (mMRC) scores were -2.2 ± 5.5 and -0.3 ± 0.9 , respectively. Improvements in both pulmonary function and symptom scores were observed across all four groups.

Conclusion

This real-world study assessed the impact of a multidisciplinary intervention on COPD patients in Taiwan. The P4P program was shown to significantly improve pulmonary function and reduce symptom scores in COPD patients after one year. Furthermore, the program was found to lower the risk of COPD exacerbations, particularly among patients in Groups C and D. These findings are consistent with results from previous studies evaluating the effectiveness of COPD care programs. For example, in Korea, the COPD Quality Assessment Program (CQAP), initiated in 2014, significantly reduced the risk of hospital admissions and all-cause mortality by 21.2% and 40.7%, respectively, compared to a group that did not participate in the program. In Greece, a 6-week intervention consisting of exercise and education sessions, supervised by physiotherapists, nurses, and general practitioners, led to clinically significant improvements across various outcomes, as assessed by the COPD Questionnaire, St. George's Respiratory Questionnaire, Patient Health Questionnaire, and Incremental Shuttle Walking Test. In conclusion, COPD care programs, including the P4P program in Taiwan, have demonstrated positive effects in improving the clinical outcomes of COPD patients.

Conflicts of interest related to this abstract: None

P-2156

The Knowledge Exchange (KnEx) Program for the Youth in Cotabato City, Philippines

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Introduction

The establishment of the Knowledge Exchange (KnEx) program in 2024 marks a significant step toward addressing the growing health and well-being challenges faced by adolescents today. In response to increasing concerns about teenage pregnancy, sexually transmitted infections (STIs), mental health issues, and a lack of accessible health education, the Teen Academy was designed to equip young people with the knowledge, skills, and support needed to navigate these critical aspects of their lives. Adolescence is a critical period of physical, emotional, and psychological development, making it essential for teens to receive accurate and timely information to make informed health decisions. The Knowledge Exchange (KnEx) Program seeks to empower teenagers (ages 12–18) in Cotabato City by fostering their talents, enhancing social development, and promoting awareness of health-related issues. Through inter-school activities, the program encourages meaningful dialogue between generations, enabling youth and older adults to share ideas, skills, and experiences.

Aim/Objective(s)

The program aims to establish a self-sustaining initiative that prioritizes the social, mental, and physical well-being of teenagers while instilling respect for older individuals. By integrating education, advocacy, and talent development, KnEx creates opportunities for teenagers to take leadership roles, engage in community service, and develop deeper understanding of health and social issues.

General Objectives:

- To provide a structured venue for teenagers to develop their talents, knowledge, and social skills.
- To facilitate intergenerational learning and collaboration between youth and older adults.
- To create a sustainable program that supports adolescent well-being while strengthening community engagement.

Specific Objectives:

1. Establish a Youth Advocacy Committee
2. Create Interactive Talent and Knowledge-Sharing Platforms
3. Develop a Leadership and Training Curriculum
4. Strengthen Partnerships
5. Promote Youth Involvement in Elderly Care
6. Foster a Culture of Mutual Learning

Methods

The Knowledge Exchange (KnEx) program signed a memorandum of agreement with different high school and colleges to recruit teenagers ages 12–19 years old in coordination with their respective administrative department and student body council. In partnership with the Adolescent Health Issues and Perspectives (AHIP) program of the Obstetrics and Gynecology Department of Cotabato Regional and Medical Center, a series of lectures on Reproductive Health lectures were conducted. Using a questionnaire, the knowledge and perceptions are evaluated and tallied. Established in March 25, 2024, in partnership with CRMC Subspecialties, Ministry of Health, LGUs and Department of Education, the Knex program has invited various representatives in Cotabato City in lectures focusing on adolescent social, mental and physical health and respect for older persons.

Results

In 2024, a series of educational initiatives aimed at improving adolescent health were conducted, focusing on key issues such as sexual health, mental well-being, and personal wellness. The program commenced in March with the launch of Teen Academy, which included a pledge of commitment followed by the first lecture addressing teenage pregnancy and sexually transmitted infections (STIs). In May, a lecture on "Mental Health and Mindfulness" was delivered in partnership with the Mental Health Unit of Cotabato Regional and Medical Center, emphasizing stress management and emotional regulation. The program continued in August with a lay forum titled "Teen Wellness and Mental Health" held at San Vicente Academy, where adolescents engaged in open discussions about wellness and mental health. Finally, in October, a collaboration with the Obstetrics and Gynecology Department led to the "The Clean Teen" session, which focused on adolescent health issues and the importance of hygiene and responsible sexual health practices. Feedback from participants indicated that these initiatives played a pivotal role in breaking down the stigma. Overall, the feedback underscores the success of these educational initiatives in providing adolescents with valuable knowledge and a supportive environment to discuss critical health topics.

Conclusion

The KnEx Program is designed not only to develop the talents of young individuals but also to instill a sense of responsibility and community engagement. By incorporating intergenerational learning, the initiative promotes mutual respect, empathy, and a deeper understanding between the youth and older adults. Furthermore, the program's emphasis on health education, leadership, and talent development ensures that teenagers grow into well-rounded individuals who can positively contribute to society. The establishment of sustainable partnerships with schools, government agencies, and NGOs will strengthen the program's reach and long-term impact. Through these efforts, KnEx bridges the generational gap, fosters meaningful social connections, and creates a culture of care, knowledge-sharing, and community services.

Conflicts of interest related to this abstract: None

P-2157

The Promotion and application of Communication Passport in Psychiatric Service for Intellectual Disability (PSID)

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Introduction

Communication passport is a person-centered and the most effective means to support the communication for people with difficulty in communication. People with Intellectual disability are prone to display behaviour problems when their needs are not met due to communication failure. Its impacts reflected on the frequent readmission, application of physical restraint, carers stress, manpower demand for observation, managing the behavior problems and documentation, staff and patients' incident and the quality of service as well as the quality of life. In PSID, the application of the communication passport booklet is low due to its complexity of many open-ended questions, difficult to find the care information by carers. In order to increase the application of the communication passport and improve the

effectiveness in managing patients' behavior problem, modification of the booklet by the Positive Behavior Support Group has been implemented since Jun 2024.

Aim/Objective(s)

to (1) promote and apply the modified communication passport; (2) improve the service quality; (3) improve the experiences of service users and nurses

Methods

A 'Pre-test' vs 'Post-test' design was adopted and data collected in 6/2024 and 12/2024 respectively.

1. The application of the modified communication passport in PSID Team was launched since 6/2024
2. The communication passport had been provided to the carers upon patient discharge
3. Collect feedback from nurses and carers
4. Subjects were 20 nurses and 40 carers

Outcome measures were categorised as: (1) The application rate; (2) Satisfaction survey of the modified communication passport for nurses and carers including its user friendliness, easily for reference and the information is helpful in communication with patients; (3) Qualitative feedback from nurses and carers; (4) Nurse job satisfaction

Results

The application rate of the modified communication passport was 100%. 82.5% of carers and 100% of nurses preferred the modified communication passport. Positive feedback from carers revealed 'clear and concise', 'easy for understanding' and 'convenient', while nurses' positive feedback revealed "better understanding the needs of patients' and effective in managing their behaviors", 'user-friendly' and 'not demanding when filling in'. Nurses' job satisfaction score increased from 3.9/10 to 8.2/10.

Conclusion

The outcomes and feedback from the carers and staff were positive and encouraging. This program led not only on improvement on the department service, communication and relationship with the carers and staff job satisfaction but also the Team morale. Therefore, the application of modified communication passport should be promoted in PSID, CPH

Conflicts of interest related to this abstract: None

P-2158

The role of social prescribing in complementing healthcare management for older persons in Cotabato Regional Medical Center, BARMM, Maguindanao, Philippines

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Introduction

The Above 60 Academy was organized in Cotabato Regional Medical Center (CRMC), in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), last October 2023 to address the healthcare needs of the older persons who are considered vulnerable sector of society.

Aim/Objective(s)

The Above 60 Academy aims to empower senior citizens regarding health utilization as well as encourage fellowship to address their psychosocial needs. As part of the Health Education and Recreation for Older Persons (H.E.R.O.) project of the hospital, the academy became an immediate liaison of the older persons to their healthcare providers and the services of the

hospital. This study evaluated the impact of setting up the Geriatric Clinic with a community worker link to help address the needs of the older persons.

Methods

This is a qualitative study describing the actual activities done by the Above 60 Academy and capture the actual work that goes into everyday service delivery at the Geriatric Clinic. Structured interviews were done with primary care providers (the residents in training), nurse, healthcare assistant and random feedback interview of older persons who attend the monthly activity.

Results

There were 130 senior citizens who regularly attend the monthly activities of the Above 60 Academy in CRMC. There were 2 link workers identified, the Geriatric Unit healthcare assistant and the Office for Senior Citizens Affairs of the local government unit who both act as community link workers for the hospital. These link workers were crucial in providing details about community supports, identify nonmedical needs and connect patients to relevant services in the hospital as well as the community. There were more elderly patients consulting at the Geriatric Clinic as an offshoot of the monthly Above 60 Academy activities.

Conclusion

In conclusion, social prescribing through link workers has had a significant impact, empowering individuals to prioritize healthy aging and disease prevention rather than seeking care solely for acute illnesses. This shift ultimately helps reduce patient load in emergency rooms and inpatient wards.

Conflicts of interest related to this abstract: None

P-2159

Towards a Distinct Experience and Optimum Quality of Life for Stroke Patients

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Introduction

Stroke is a prevalent health issue that poses substantial challenges for individuals and healthcare providers alike. It not only results in physical disabilities but also significantly impacts the overall quality of life for stroke survivors. The hospital is a tertiary care facility, meaning it provides a wide range of specialized medical services. However, the utilization and distribution of available resources, inconsistent provision of services, and the lack of evidence-based urgent stroke care contribute to suboptimal patient outcomes throughout the Kingdom. The project highlights the challenges faced by stroke patients, including poor quality of life as indicated by an average Modified Rankin Scale (mRS) score of 3.33, high readmission rates, and inconsistent care. Addressing these challenges necessitates a comprehensive approach that prioritizes improving functional abilities, fostering independence, and enhancing overall well-being.

Aim/Objective(s)

The project, conducted at Al Hada Armed Forces Hospital in Saudi Arabia, aimed to improve the quality of life for stroke patients by addressing the critical issue of poor quality of life and high readmission rates. The project aimed to achieve this through the implementation of a comprehensive case management approach.

Methods

The research project at Al Hada Armed Forces Hospital in Saudi Arabia focused on enhancing the quality of life for stroke patients by tackling poor quality of life and high readmission rates. The primary objectives included reducing the average Modified Rankin Scale (mRS) score for ischemic stroke patients from 3.33 to 1 within 90 days and decreasing hospital readmission rates for secondary strokes. Additionally, the project aimed to improve patient satisfaction post-discharge calls. It involved developing a standardized treatment pathway based on evidence-based best practices and promoting multidisciplinary collaboration among clinical teams, including case managers and social workers. The initiative also sought to improve hospital efficiency by optimizing resource utilization and patient flow, alongside increasing public awareness through community campaigns to promote early detection and treatment of strokes.

Results

The study at Al Hada Armed Forces Hospital in Saudi Arabia, demonstrated the effectiveness of a comprehensive case management intervention in improving the quality of life and outcomes for stroke patients. The intervention, implemented over 18 months, focused on a multidisciplinary approach, evidence-based best practices, and a standardized treatment pathway.

Key findings include: Improved Quality of Life: The average Modified Rankin Scale (mRS) score, a measure of disability, significantly decreased from 3.33 at baseline to 0.91 after 90 days, indicating a substantial improvement in patients' functional abilities. Reduced Readmission Rates: The hospital readmission rate due to secondary stroke decreased from 6.2% to 4%, highlighting the intervention's success in preventing readmissions. Enhanced Patient Satisfaction: Patient satisfaction post-discharge call increased from 45% to 94%, demonstrating the positive impact of the intervention on patient experience. The study's findings were supported by both quantitative data, collected through the Modified Rankin Scale and hospital readmission rates, and qualitative data, gathered through patient interviews. The research team used a quasi-experimental design with a pre- and post-evaluation approach, allowing them to assess the impact of the intervention on patient outcomes.

Conclusion

This research, conducted at Al Hada Armed Forces Hospital in Saudi Arabia, demonstrates the effectiveness of a comprehensive case management approach in improving the quality of life and outcomes for stroke patients. The study addresses the critical issue of poor quality of life and high readmission rates experienced by stroke patients, highlighting the need for a more holistic and patient-centered approach to stroke care. The study's findings contribute to health service improvement by providing evidence-based support for the implementation of a standardized case management pathway. This approach, involving a multidisciplinary team, evidence-based best practices, and a standardized treatment pathway, has proven successful in enhancing patient satisfaction, improving quality of life, and reducing readmission rates. The study's findings also contribute to practice, and research by: Policy: The study's findings support the development of evidence-based policies aimed at Practice: The study provides a practical framework for implementing a comprehensive case management approach in healthcare settings, highlighting the importance of multidisciplinary collaboration, standardized treatment pathways, and patient-centered care. Research: The study provides valuable insights into the effectiveness of case management strategies in enhancing post-stroke outcomes, potentially influencing future research and clinical practice.

Conflicts of interest related to this abstract: NONE

P-2160

TRANSPORT NURSES OF MMMHMC: EXTENDING CARE BEYOND THE NICU (Saving Lives on the Road)

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Introduction

The development of the Newborn Emergency Transport Service (NETS) in MMMHMC originated due to the significant number of neonates that require emergent transfers to the institution. Unfortunately, these sick neonates were transferred either by self-conduction or by a regular ambulance without special equipment/trained personnel. As a result, babies arrived at the ER either hypoglycemic, hypothermic, or with presenting signs and symptoms of respiratory distress. As one of the referral centers, MMMHMC has been working to provide our patients with cutting-edge medical care. The institution's transport nurses are at the forefront of neonatal retrieval and transport in Northern Luzon to guarantee that critically ill newborns receive the best care possible from the moment they leave one facility until their safe arrival at MMMHMC. With state-of-the-art equipment and monitoring devices, these nurses work alongside other members of the team to stabilize and provide life-saving interventions to sick neonates while in transit.

Aim/Objective(s)

The program aims to reduce newborn morbidity and mortality by providing advanced and developmentally appropriate coordinated neonatal services and accessible, high-quality neonatal care. It ensures that every newborn, no matter where they are, has the best chance at life. In collaboration with transport nurses, NETS ensures the rapid, timely, and safe transfer of sick and high-risk neonates to and from birth facilities. Through NETS, the transport nurses of MMMHMC have transformed neonatal care by extending their reach beyond the ICU, proving that intensive care is not confined within hospital walls. NICU transport nurses navigate high-risk situations, making split-second decisions to sustain neonates who require immediate critical care. Their role demands not only clinical expertise but also the ability to adapt to the unpredictable challenges of transport medicine. Instead, it moves wherever a newborn in distress needs it most.

Methods

In the Philippines, there are transportation systems that cater to a wide range of patients, none of which are solely focused on newborns, and none with highly qualified organizations and staff capable of providing intensive care outside of the neonatal unit. The MMMHMC's NETS with the transport nurses was established to play a proactive role in bringing critical care services to the community, ensuring the safe transport of high-risk infants from their birth hospitals to the base hospital at the MMMHMC. The institution's Neonatal Intensive Care Unit is a Level III facility that serves the Ilocandia, including the provinces of Ilocos Norte, Ilocos Sur, Abra, Apayao and southwestern part of Cagayan.

Results

The MMMHMC neonatal care goes beyond the walls of the Neonatal Intensive Care Unit. Through the Neonatal Emergency Transport Service (NETS), the hospital's 42 NICU nurses, all trained in Philippine Essential Newborn Care and Resuscitation Program (NRPH+) and S.T.A.B.L.E (Sugar, Temperature, Airway, Blood Pressure, Laboratory works and Emotional Support)

program, have taken their expertise on the road to provide critical care to newborns in need. With 456 neonatal transports completed to date, these dedicated nurses have become lifelines for newborns requiring urgent medical intervention. Of all the transfers, 99.86% were stabilized prior to and during transfers to the base hospital or the referring hospital. With this, MMMHMC's preterm survival rates have exceeded 90%. Because of this innovation and the team's skill and compassion, they earned them the "Most Outstanding Team Award at MMMHMC" for the calendar years 2017 and 2023, a testament to their relentless pursuit, sacrifices on the road, and outstanding service and impact.

Conclusion

The Transport Nurses of MMMHMC embody the true essence of dedication, courage, and excellence in neonatal care. These 42 brave souls go beyond the walls of the hospital, breaking conventional barriers to bring lifesaving interventions to the most fragile and high-risk newborns in Northern Luzon. With expertise honed through rigorous training in Neonatal Resuscitation and STABLE programs, they serve as a lifeline for sick neonates, ensuring safe and timely transfers to MMMHMC's Neonatal Intensive Care Unit. Every mission they undertake is a testament to their unwavering commitment, not just to their profession, but to the countless families who place their trust in them. Through the Neonatal Emergency Transport Service (NETS), they have retrieved over 456 neonates, each journey carrying the weight of hope and the promise of a fighting chance at life. As they continue to brave long distances and critical situations, MMMHMC's Transport Nurses stand as pillars of compassion and resilience. Their work is not just a service but a calling, one that transforms fear into hope, uncertainty into assurance, and vulnerability into strength. They are the unsung heroes of neonatal care in Ilocandia, proving that every mile traveled is a step toward saving a precious life.

Conflicts of interest related to this abstract: None

P-2161

Travel Faster: Reducing Consultation Time at a Traveller's Health and Vaccination Clinic

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Introduction

With the resumption of global travel post-COVID, pre-travel health consultations at Traveller's Health clinics globally and at our institution have increased significantly. These consultations require comprehensive assessments of travellers' medical history, itineraries, and vaccination status. However, the average consultation time can be lengthy, posing challenges for both physicians and patients. The long duration can be attributed to extensive data collection required of clinicians, information gaps faced by patients, and the need for thorough counselling on travel precautions. To enhance efficiency without compromising patient safety and quality of care, a quality improvement project was implemented to reduce consultation times while maintaining effective pre-travel health advice and vaccinations.

Aim/Objective(s)

The primary objective of this project was to reduce the consultation time for travel health and vaccination consults at NUH THVC from a median of 65 minutes to less than 48 minutes (a reduction of at least 25%) within six months. The project aimed

to achieve this by optimizing workflow processes, improving information availability, and integrating digital tools to enhance patient education and clinician efficiency.

Methods

A quality improvement methodology was employed using Plan-Do-Study-Act (PDSA) cycles. Baseline data on consultation times were collected retrospectively from NUH THVC records from March 2022 to September 2023. Key challenges identified through focus group discussions with infectious disease physicians, residents, nurses, and patients included inadequate pre-visit information gathering, time-consuming counselling, and variability in clinician expertise. Interventions included structured tutorials for clinicians, patient information sheets, and the implementation of an artificial intelligence (AI) large language model-driven chatbot to provide preliminary travel health guidance to complement clinic encounters. The effectiveness of these interventions was assessed by comparing the median time of travel health consults pre-, during- and post- the intervention period, as well as through patient/clinician satisfaction surveys.

Results

Following the implementation of targeted interventions, the median consultation time at NUH THVC decreased from 65 minutes to approximately 45 minutes, surpassing the initial goal of 48 minutes. Clinician training and the introduction of structured educational materials improved efficiency in patient assessments. The patient information sheet helped reduce redundant questioning, allowing clinicians to focus on personalized counseling. Additionally, the AI chatbot facilitated preliminary travel guidance, enabling patients to arrive at consultations better informed. Patient and clinician feedback indicated improvements in consultation efficiency and information clarity. Physicians reported reduced cognitive load and better consultation structure, while patients found the pre-consultation materials useful in understanding travel health precautions. The streamlined process also allowed for increased patient throughput, with the potential for additional consultation slots per session.

Conclusion

The project successfully reduced consultation times while maintaining high standards of patient care at NUH THVC. The integration of structured training, patient education materials, and AI-driven tools contributed to a more efficient workflow, benefiting both patients and healthcare providers. This initiative demonstrates the value of process optimization in travel medicine clinics, ensuring that increased patient volumes can be managed effectively without compromising safety. Future steps include scaling the interventions to other patient groups, such as paediatric travellers, and expanding the AI chatbot's role in other infectious diseases and medical clinics. Additionally, further refinement of digital tools and patient education strategies will help sustain the improvements and enhance the patient experience in travel health consultations.

Conflicts of interest related to this abstract: None

P-2162

Use of digital technology to define, understand and help to treat psychological intimate partner violence

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Introduction

Intimate partner violence is frequent and has a major impact on the global health and quality of life of victims, perpetrators and witnesses (as children). Psychological violence is the most fre-

quent (up to 2 out of 5 women are victims) with significant consequences, but also the most complex and paradoxically the least known to health professionals. Very few situations are identified by screening, and psychological violence is often difficult to define, qualify and quantify.

Aim/Objective(s)

From our clinical and research experience of more than 25 years in our Unit of Medicine and Prevention of Violence in a Swiss University Hospital (HUG, Geneva), we have noted that professionals need training in this field. The definitions are not clear, and professionals have a very partial and fragmented knowledge of them. The victims of this violence need to be recognized and supported, with appropriate findings and therapies. Witnesses, relatives, and perpetrators of this violence also need to be informed about these harmful relational mechanisms, for the purpose of prevention and treatment. Moreover, the criteria of judicialization are often unknown to professionals and protagonists undergoing and acting this violence.

Methods

Spontaneously, we lack words to think about and describe psychological violence and to name emotional abuse. A lexicon can then allow us to free ourselves from confusion, misunderstandings and ambiguities by developing a clearer and coherent thought at the borders of what is violence or not, tolerable or not, reprehensible or not. Posted on our HUG blog (www.prevention-violence.ch) in 2023, we develop a French-language glossary which has now 640 terms and 14 semantic fields. These fields aim to overcome the classical distinction between direct and indirect violence, passive and active. The constellation of its fields varies a lot from couple to couple, as well as their intensity, these are ways of doing, being or saying that impact each other. This glossary is also used to capture the contexts that promote, support and maintain psychological violence through the exemplifications and the situational context we propose.

Results

With the continuing education center at the University of Geneva, we also create in 2025 a short specific academic training with online podcasts and documents for medical, social, legal professionals in French-speaking Switzerland to help them in the support of these victims.

Conclusion

Since 2 years, and thanks to local and regional symposiums and meetings on the subject, professionals are more interested and concerned by psychological violence. It improves practices and services for victims, as requested by the Istanbul Convention and the Federal Office for Equality which helps financially this project. These tools can also help to deal with other situations of psychological violence, for example at work, school, inside sects or sport groups, prisons.

Conflicts of interest related to this abstract: None

P-2163

Using multi-strategy intervention of wound care effectiveness of plastic surgery nurses

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Introduction

Plastic surgery patients are typically admitted due to trauma or post-operative conditions, and 100% of these patients require proper wound care. Inadequate wound care can lead to infections, which may significantly prolong the hospital stay. In more

severe cases, poor wound management can result in septic shock or even death. Recently, the unit has trained six new nursing staff members, and, on average, 3–4 cross-disciplinary support staff rotate in each month. However, there is a noticeable gap in expertise regarding wound care and the evaluation of diverse dressing options, which has adversely impacted the quality of care provided. To better understand and address the current situation, the team conducted a comprehensive survey between March 2, 2023, and April 1, 2023. The results of this survey aim to guide improvements in wound care practices and enhance patient outcomes.

Aim/Objective(s)

The goal is to significantly enhance the wound care capabilities of nursing staff in the plastic surgery ward, with the aim of achieving a 91% accuracy rate in their wound care skills. By improving their knowledge and techniques, the initiative seeks to ensure that patients receive optimal wound care, which in turn will promote faster and more effective wound healing. This will help reduce the occurrence of complications, such as infections, delayed healing, and other related issues. Additionally, better wound care practices will contribute to an overall improvement in the quality of clinical care provided to patients. Through targeted training and ongoing support, the program aims to create a more skilled and confident nursing team, ensuring that patients benefit from the highest standard of care throughout their recovery process. Ultimately, this will enhance patient outcomes and satisfaction.

Methods

In order to understand the accuracy of nurses in performing wound care, a review of relevant literature and the hospital's standard operating procedures was conducted. Based on this, a "Nurses' Wound Care Skills Checklist" was designed, which includes 10 items aimed at evaluating whether nurses can perform wound care according to standard operating procedures in their daily work. Additionally, to further understand nurses' knowledge of wound care, a "Nurses' Wound Care Knowledge Survey" was developed based on relevant literature. This survey consists of 10 questions and was administered to 23 nurses in the unit to assess their understanding of wound care. Through the design and implementation of these two tools, it is expected to effectively evaluate the professional skills and knowledge levels of the nurses, thereby improving the quality and safety of wound care and providing a solid foundation for future education and training.

Results

The survey results show that the accuracy of plastic nurses in performing wound care skills is only 76.2%, and their correct understanding of wound care concepts is just 80.4%. This indicates that while nurses have a certain level of foundational knowledge, there are still discrepancies in practical application. To address this issue, the plan proposes a series of solutions, including interdisciplinary wound care seminars aimed at enhancing nurses' professional knowledge and skills. In addition, to improve efficiency in selecting appropriate dressings, the plan provides quick reference cards for various dressing options, making it easier for nurses to consult during clinical practice. Multimedia videos on wound care will also be used as training tools, combining visual and auditory elements to deepen nurses' understanding of wound care processes. These strategies aim to design personalized learning and operational guides through a variety of methods, ultimately enhancing the overall quality of wound care and the professional competence of nursing staff.

Conclusion

After the improvement measures were implemented, the accuracy of plastic ward nurses' "knowledge of wound dressings" increased from 80.8% before the improvement to 96.6%, and

the accuracy of their "wound care skills" improved from 76.2% to 92.3%. This significant improvement highlights the effective enhancement of nurses' knowledge and skills through professional training, as well as increased accuracy in practical operations. Through systematic training and continuous monitoring, the ward has been able to ensure that nurses' understanding and execution of wound care reach higher standards. Additionally, to maintain high-quality wound care, the ward has consistently monitored the surgical wound infection rate, successfully keeping it below 0.03%, demonstrating the stability and efficiency of wound care outcomes. Based on these results, it is recommended to conduct more in-depth training through specialized wound care workshops and integrate quick reference cards for various dressings and multimedia videos on wound care as supplementary tools. These methods will help enhance nurses' understanding and hands-on ability in the wound care process. These innovative training approaches will not only assist nurses in quickly selecting appropriate dressings in clinical practice, but also effectively improve patient wound care quality, thereby enhancing overall patient satisfaction and treatment outcomes.

Conflicts of interest related to this abstract: None

P-2164

Using oral management strategies to reduce the incidence of oral frailty and aspiration pneumonia in elderly patients.

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Introduction

Many elderly individuals mistakenly believe that declining oral health is a natural and inevitable part of aging, leading them to overlook issues such as oral weakness. This condition, characterized by reduced oral function and muscle strength, increases the risk of aspiration pneumonia – a serious respiratory infection caused by inhaling food, saliva, or bacteria into the lungs. Studies indicate that the clinical incidence of aspiration pneumonia among elderly patients is approximately 3.9%. Research suggests that proper oral hygiene and management play a crucial role in mitigating oral weakness, thereby reducing the likelihood of aspiration pneumonia. Effective interventions, such as regular oral care, professional dental check-ups, and targeted oral exercises, can help maintain oral function, enhance swallowing ability, and ultimately improve overall health outcomes in the elderly population.

Aim/Objective(s)

This study aimed to examine the impact of oral management intervention strategies on reducing oral frailty and the incidence of aspiration pneumonia in elderly patients.

Methods

This intervention study included 126 elderly patients aged 75 years and above with oral frailty, as confirmed by the Oral Frailty Checklist (OFC). The intervention followed a multidisciplinary approach, with physicians, dietitians, and occupational therapists collaborating to develop a standardized oral frailty care program. This program included tailored food choices, dry mouth care, oral hygiene maintenance, and structured oral activation exercises for high-risk patients. Additionally, educational materials such as large-print health education leaflets, multimedia instructional videos, and hands-on oral care training were developed. Data were collected through medical record reviews, questionnaires, and clinical assessments, while statistical analyses were performed using SPSS 26.

Results

The study results demonstrated a significant improvement in oral health outcomes among elderly patients following the intervention. The proportion of patients at moderate risk of oral frailty dropped substantially from 60% to 15.6%, indicating enhanced oral function and reduced vulnerability to oral deterioration. Additionally, the incidence of aspiration pneumonia declined to 0%, reflecting the effectiveness of the intervention in preventing this serious complication. Statistical analysis confirmed the significance of these findings, with a p-value <0.005, underscoring the strong impact of structured oral care strategies in improving patient outcomes.

Conclusion

This study highlights the effectiveness of structured oral care interventions in improving oral health and reducing complications among elderly patients. The significant decline in the proportion of patients at moderate risk of oral frailty, demonstrates the positive impact of targeted oral management strategies on maintaining oral function and preventing deterioration. Moreover, the reduction of aspiration pneumonia incidence underscores the critical role of proactive oral care in preventing severe respiratory complications. With statistical validation (p-value <0.005), these findings emphasize the importance of a multidisciplinary approach in promoting better oral health, enhancing overall well-being, and reducing healthcare burdens in aging populations.

Conflicts of interest related to this abstract: None

P-2165

Using visual interventions to reduce the incidence of medication interruptions by medical nursing staff

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Introduction

Interruptions during medication administration pose significant risks to patient safety, nursing practice, and hospital operations. Patients may experience treatment delays, medication errors, or adverse drug reactions, leading to severe complications, prolonged hospital stays, or life-threatening events. Nurses facing frequent interruptions are more prone to errors due to cognitive overload and decision fatigue, increasing legal and psychological stress. For hospitals, medication errors can result in medical disputes, financial liabilities, and reputational damage, impacting overall healthcare quality and accreditation status. Ensuring an uninterrupted medication administration process is critical to minimizing risks, improving patient outcomes, and maintaining high standards of clinical care. Creating a safe medication environment should be a priority to enhance both patient safety and the efficiency of healthcare professionals. To understand the current situation, the team investigated the medication interruption rate among internal medicine nursing staff from March 27 to March 31, 2023, which was as high as 70.6%.

Aim/Objective(s)

The goal of this project is to analyze and improve medication administration interruptions caused by various factors in clinical care, ensuring that patients receive their medications on time and accurately. By addressing these issues, we aim to enhance treatment efficacy and reduce adverse events.

This project seeks to implement multiple strategies to reduce medication interruption rates among nurses to 42.6% or lower. Key focus areas include enhancing monitoring systems, improving communication between departments, optimizing

medication management protocols, and increasing staff awareness through training and education. Additionally, we will develop clear guidelines for handling patient self-brought medications and strengthen cross-team coordination. Through these targeted improvements, we aim to streamline medication workflows, enhance patient safety, and ensure the continuity of care in clinical settings.

Methods

This project aims to reduce medication interruptions among internal medicine nursing personnel by implementing targeted intervention measures. These include:

1. Establishing an operational flow for managing medication interruptions to ensure a structured response.
2. Designing a completion reminder card for antibiotic infusions to help nurses track infusion end times.
3. Introducing a Medication Readiness Visual Aid Card, prompting healthcare professionals to pause, visually inspect, and listen attentively while preparing medications.
4. Implementing visual reminder strategies, such as a "Do Not Disturb" sign during medication administration and informational check prompts to enhance focus.
5. Developing efficient strategies to minimize medication disruptions and improve medication safety and adherence.

By integrating these measures, the project aims to streamline medication workflows, enhance patient safety, and improve nursing efficiency.

Results

This project implemented evidence-based strategies to reduce medication administration interruptions and enhance patient safety. The findings indicate a notable reduction in medication interruptions among internal medicine nursing staff, initially decreasing to 41.3%. After six months of sustained interventions, the rate further declined to 12.5%, highlighting the effectiveness of these measures. To ensure long-term improvements, it is recommended that the medication information system be integrated with antibiotic IV infusion start and end times, providing automated alerts to notify nursing staff before infusion completion. This proactive approach will reduce cognitive overload, optimize workflow efficiency, and mitigate medication errors. Furthermore, by establishing a structured and supportive nursing environment, this initiative aims to enhance patient safety, improve clinical outcomes, and reinforce adherence to best practices in medication administration.

Conclusion

The purpose of this project is to reduce the occurrence of medication interruptions among nurses in comprehensive wards, thereby improving staff handling of alarms, answering interdepartmental communication calls, and reducing the frequency of staff movement, ultimately enhancing work efficiency. During the project, team members collaborated to brainstorm and design an "Antibiotic Infusion Completion Reminder Card" to provide proactive service for intravenous infusion. This not only reduces the number of alarms but also increases caregivers' satisfaction with the quality of care and service. Project members engaged in discussions with the information technology department to utilize digital workflows, optimizing inspection sequencing and preparation reminders, significantly enhancing the completeness of preparation. Additionally, by leveraging communication and coordination skills, the team adjusted handover times with the emergency department and examination room to minimize repetitive nursing tasks, thereby improving the quality of care and enhancing medication safety for patients.

Conflicts of interest related to this abstract: None

P-2166

Utilizing Automated Transport Systems to Reduce Infectious Waste and Improve Laboratory Efficiency in a Medical Center in Southern Taiwan

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Introduction

The growing risks associated with climate change and emerging infectious diseases have escalated the challenges of hospital risk management. In response, the United Nations introduced the "WHO CARES WINS" initiative in 2004, which emphasized sustainability goals. In 2023, Taiwan's Ministry of Health and Welfare integrated ESG policies into healthcare services to reduce environmental impact. Prior to the integration of automation, laboratory specimen transportation required manual handling and individual plastic packaging, which not only increased the risk of infectious exposure but also caused inefficiencies in sample processing. In 2024, a southern medical center in Taiwan implemented an intelligent laboratory system that included pneumatic tube systems, automated track transport, and robotic carriers for distant laboratory units. This study aims to evaluate the system's impact on infectious waste reduction, operational efficiency, and safety improvements.

Aim/Objective(s)

This study aims to evaluate the impact of implementing an intelligent laboratory system, including pneumatic tube systems, automated track transport, and robotic carriers, on reducing infectious waste, improving operational efficiency, and enhancing safety at a southern medical center in Taiwan. Specifically, it assesses changes in infectious waste volume, test report turnaround time, specimen handling, staff efficiency, and overall work environment satisfaction.

Methods

The installation of the laboratory track automation system took place from February to August 2024. To assess its impact, data were collected from 2023 to 2024, including infectious waste volume, turnaround time for laboratory reports, and the usage of specimen collection tubes. The analysis focused on changes in waste generation, robotic transport efficiency, and improvements in laboratory workflow.

Results

Infectious waste volume increased from 30,875.8 kg in 2023 to 31,436.2 kg in 2024. However, when adjusted for testing volume, the proportion of infectious waste decreased from 0.88% to 0.86%. The average emergency test report turnaround time improved from 17.46 minutes in 2023 to 17.13 minutes from September to December 2024. The proportion of direct contact with infectious specimens dropped to 39.4%. Additionally, robotic transport reduced staff walking time by approximately 5,824 minutes per year and increased the number of specimens transported, thereby enhancing overall processing efficiency. Following the implementation of laboratory automation, staff satisfaction with the work environment increased by 2.2% in 2024 compared to 2023.

Conclusion

Laboratory automation significantly reduced manual transport time, allowing staff to focus on reviewing test reports while minimizing exposure to infectious specimens. Workflow optimization led to shorter emergency test turnaround times, improving patient management and alleviating emergency department overcrowding. Additionally, the implementation of automated systems contributed to sustainability efforts by reducing the

proportion of infectious waste and enhancing energy efficiency. From September to December 2024, compared to the same period in 2023, the hospital's electricity usage increased by an average of 8,800 kWh per month due to the addition of equipment. However, there has been a gradual decline in electricity consumption over time. Future plans include reducing specimen storage times, decreasing the number of refrigerators, and exploring other energy-saving solutions. Continued efforts will focus on further reducing the carbon footprint, improving specimen management, and ensuring sustainable laboratory operations.

Conflicts of interest related to this abstract: None

P-2167

Validity and Reliability of the newly developed PREM tool for assessing quality of care and patient safety during antenatal services

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Introduction

Maternal mortality and morbidity, which are indicators of clinical outcomes, do not provide insight into the women's experiences. These traditional clinical outcome measures must be complemented with tools assessing patients' subjective experiences, providing a more holistic view of healthcare effectiveness. Irrelevant inquiries in tools can bias maternity care, hindering service improvement. The absence of an optimal PREM has hindered its integration into clinical practice. Consequently, the proposition of an Antenatal PREM tool, developed with the involvement of women who have experienced maternity care, aims to identify relevant, comprehensive, and understandable aspects for pregnant mothers, incorporating test-retest reliability and cross-cultural validation parameters.

Aim/Objective(s)

The study aimed to develop and validate a Patient Reported Experience Measure (PREM) tool for assessing antenatal care provided to women and benchmarking practices in the field.

Methods

A multiphasic study used purposive sampling in fifteen hospitals across India. Phase 1 involved forming an expert group, conducting focus group discussions, developing a Standard Operating Procedure, and creating the PREM Questionnaire. Phases 2 and 3 included a pilot study with 220 participants and a field study with 518 participants.

Results

A customized PREM tool was developed using 22 expert-sourced questions. It achieved a Kuder-Richardson Formula 20 (KR-20) internal consistency value of 0.7205, indicating acceptable reliability. The mean Content Validity Index (CVI) was 0.998, reflecting high content validity, and the scale's Content Validity Ratio was 0.95, demonstrating an appropriate item selection. All experts agreed that 21 out of 22 questions were essential. In both studies, healthcare workers placed lower priority on labor pain management, breastfeeding counseling, and birthing education. Furthermore, the research indicated gaps in data regarding HIV, breastfeeding practices, and the presence of birth companions.

Conclusion

The concept of patient experience, a crucial component of patient-centered care, has gained significant importance in evaluating healthcare systems' performance and quality enhancement. This Patient Reported Experience Measure tool, which has undergone rigorous scientific validation and emphasizes women's participation in enhancing content validity, aims to improve patient outcomes within antenatal care-focused healthcare settings.

Conflicts of interest related to this abstract: NONE

P-2168

VALUE_IS_BRAIN: Application of Lean & Value-Based Healthcare methodology to optimize and improve clinical pathway of ischemic stroke patients eligible for reperfusion-procedures.

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Introduction

Stroke is the second leading cause of mortality and the third leading cause of disability worldwide, exerting a significant burden on healthcare systems and patients' quality of life. In Italy, approximately 150,000 people experience a stroke each year, with over 50% of survivors suffering from debilitating consequences. About 65% of strokes are ischemic, followed by intraparenchymal haemorrhages (approximately 26%) and subarachnoid haemorrhages (about 9%). A 15-minute reduction in treatment time decreases mortality by 4% and enhances the likelihood of survival without disability. Therefore, timely intervention and an effective diagnostic-therapeutic pathway are essential for reducing mortality and long-term complications. This study is part of a broader initiative aimed at improving the clinical management of ischemic stroke patients eligible for reperfusion procedures, utilizing the Lean & Value-Based Healthcare paradigm.

Aim/Objective(s)

This project aims to optimize the management of ischemic stroke patients eligible for reperfusion procedures

by minimizing organizational costs while maximizing clinical outcomes. A key goal is to evaluate the effectiveness of interventions through key performance indicators (KPIs). The study focuses on three critical areas: a) enhancing acute-phase treatment efficiency, with an emphasis on procedural timeliness and accurate hospital discharge form (SDO) coding; b) improving post-acute and rehabilitative care to ensure continuity of care, reduce disability, and prevent rehospitalization; c) assessing patient- and caregiver-reported outcomes to evaluate the care pathway's impact on quality of life and perceived value, including the development of a Value Dashboard.

Methods

The study employs a Lean & Value-Based Healthcare methodological approach, integrating Activity-Based Costing to assess direct hospitalization costs from thrombolytic infusion to patient discharge. Following an initial mapping of the patient pathway, critical issues and areas for optimization were identified. Economic analyses of key hospitalization phases were conducted, along with an evaluation of Diagnosis Related Group (DRG) valorisation to address potential coding errors. Additionally, a patient experience assessment was performed through an interview with the national president of the relevant patient association. Strengths and weaknesses identified in the pathway were

incorporated into a criticality analysis and improvement proposals, with ongoing monitoring through dedicated KPIs.

Results

The analysis highlighted several critical issues along the assessed care pathway, including variability in diagnosis and treatment times, challenges in phase coordination, fragmented clinical information management, and delayed access to post-acute rehabilitation. Implementing the Lean & Value-Based Healthcare methodology led to significant pathway improvements, particularly: a) standardization of procedures and development of shared operational guidelines; b) enhancement of hospital discharge form (SDO) coding accuracy and outcome indicators, increasing staff awareness and promoting optimal resource utilization; c) evaluation of average patient needs and establishment of discharge planning agreements with intensive rehabilitation facilities; d) revision of follow-up scheduling and post-discharge documentation practices; e) implementation of a monitoring dashboard for outcome analysis based on patient-related variables.

Conclusion

The findings indicate that integrating Lean & Value-Based Healthcare models into stroke care pathways can lead to substantial improvements in both clinical efficacy and organizational efficiency. This methodological approach not only enhances healthcare delivery but also fosters a more sustainable system that benefits both patients and healthcare institutions. In terms of clinical advantages and patient value creation, improved post-stroke disability monitoring, enhanced patient management, and stronger engagement with patients and caregivers post-discharge underscore the importance of an integrated approach in time-sensitive care pathways.

Conflicts of interest related to this abstract: none

P-2169

What's good for the patient is good for the staff: How Crisis Interventions in Hospitals alleviate stress among healthcare providers

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Introduction

In Germany, few hospitals have professionally operated Crisis Intervention Teams (CIT) to support patients and relatives in distressing, often traumatic situations. Instead, doctors and nurses – despite lacking specific training for such emotionally challenging scenarios – are left to manage these crises. Due to their already limited time resources, structured crisis support is often inadequate, leading to dissatisfaction among both staff and patients. Additionally, psychosocial support for hospital employees after critical incidents is rarely available. Since 2021, the University Hospital of Jena has operated a CIT to stabilize those affected while alleviating the burden on healthcare professionals. The multidisciplinary team is available on weekends and public holidays. While crisis intervention is well established in pre-hospital care, its systematic integration in clinical settings remains largely underdeveloped. However, structured crisis intervention – especially in maximum-care hospitals – is essential for a modern, sustainable work environment, particularly in high-risk areas.

Aim/Objective(s)

The primary objective of this study was to develop an evaluation instrument for the structured long-term assessment of cri-

sis intervention quality. This required this systematic identification of critical evaluation categories based on existing literature. Furthermore, these categories were retrospectively assessed by employees gaining insights into how employees perceive the quality of crisis interventions and to identify areas requiring improvement. Another key objective was to compare major stress dimensions between employees who had utilized CIT support and those who had not. To enable this analysis, relevant subscales had to be determined. As a secondary objective, the study examined the extent to which moderators such as age, gender, and professional experience influence psychological strain perception among employees. Following the completion of the quantitative study, it became evident that the results needed further substantiation through qualitative analysis. Therefore, focus groups aimed to address remaining gaps, particularly in discussing dimensions such as stress reduction.

Methods

This study employed a mixed-methods design, combining a cross-sectional survey with qualitative focus groups to evaluate CIT deployment. The survey targeted nurses and physicians, comparing those who utilized CIT services ($n = 48$) with those who had not ($n = 22$). Participants were recruited via institutional email lists, posters, and direct outreach. Data collection occurred over five weeks using SoSci Survey. The experimental group assessed CIT intervention quality dimensions considered essential for psychological first aid according to current literature. A comparison with the control group applied subscales measuring workload, role clarity, and autonomy from the Perceived Work Characteristics Scale. Statistical analyses, including t-tests, Mann-Whitney U tests, and moderation analyses, were performed using SPSS. Additionally, two focus groups ($n = 12$) provided deeper qualitative insights. Discussions were recorded, transcribed, and analyzed using content analysis following Mayring's framework, supported by MAXQDA. Ethical approval ensured voluntary participation and compliance with data protection regulations.

Results

CIT requesters demonstrated significantly greater role clarity than non-requesters ($U = 352.00$, $Z = -2.24$, $p = .025$). A significant interaction emerged between CIT use and supervisor support ($F(3,66) = 5.97$, $p = .017$, $CI [-4.75, -.477]$): In conditions of low supervisor support, non-requesters experienced higher stress ($M = 52.0$, $SD = 12.15$) than CIT requesters ($M = 59.94$, $SD = 9.47$), as lower total PWCS scores reflect higher stress levels. No significant differences were found for workload or autonomy ($p > 0.70$), and moderation analyses revealed no interaction between CIT use and age, job tenure, or social support. CIT users evaluated several quality dimensions, including availability, interdisciplinary collaboration, and response time, which were generally rated positively. Qualitative focus group discussions ($n = 12$) reinforced these findings, highlighting the CIT's role in reducing emotional burden, providing psychological relief for staff and relatives, and improving role clarity. Physicians emphasized the CIT's role in managing emotionally challenging interactions, while nurses valued its stabilizing function in high-stress environments. However, participants suggested improvements, including expanded availability and structured feedback mechanisms. Overall, the findings suggest that while the CIT provides valuable support, structural adjustments are needed to enhance accessibility.

Conclusion

This study highlights the critical role of structured crisis intervention in clinical settings, demonstrating that CIT implementation enhances role clarity and offers emotional relief for healthcare professionals. By reducing psychological burden and delineating responsibilities, CITs could foster a more resilient

and efficient workforce, potentially reducing errors and improving patient care. In line with the Job Demands-Resources model, findings underscore the significance of psychosocial support structures in mitigating workplace stress, with supervisor support as a key moderating factor. However, challenges persist, particularly regarding restricted operational hours and the need to adapt services to different professional groups for effectiveness. From a policy and practice perspective, expanding CIT availability – potentially through 24/7 coverage – and integrating CIT awareness into staff training could enhance its impact. Structured feedback mechanisms between CIT members and hospital staff may further improve quality and adaptation. This research contributes to the broader conversation on occupational stress in healthcare by empirically linking patient crisis intervention to staff outcomes. Future studies should explore the long-term impact on staff well-being and refine evaluation tools for hospital-based psychosocial support measures. Addressing these gaps will help create evidence-based policies that strengthen psychosocial support, fostering a more supportive and progressive healthcare environment.

Conflicts of interest related to this abstract: None

P-2170

Woodland Health@Home: A Cost-Effective Model of Inpatient Care in the Comfort of the Home.

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Introduction

Singapore's healthcare system is facing challenges, including rising costs and an increasing demand for hospital beds. To tackle these issues, the Ministry of Health has introduced Mobile Inpatient Care, an innovative model that provides hospital-level acute care in patients' homes. WH@Home is Woodlands Health's adaptation of the MIC@Home program, aimed at reducing the pressure on acute hospital beds and ensuring that patients who do not require high-acuity care and constant monitoring can receive treatment in the community, particularly in the northern region of Singapore. Although studies have highlighted the advantages of home-based care, there is still limited research on its cost-effectiveness. This research will analyze healthcare system costs and assess the impact of different referral sources, such as Early Supported Discharge versus Admission Avoidance, on overall costs. This approach seeks to provide valuable insights into the feasibility and potential scalability of home-based inpatient care models within Singapore's evolving healthcare landscape.

Aim/Objective(s)

This study seeks to evaluate the cost-effectiveness of WH@Home in comparison to traditional inpatient care for the treatment of cellulitis in Singapore. The specific objectives include:

1. Measuring cost savings by examining healthcare system expenses and costs incurred by patients.
2. Assessing whether Early Supported Discharge (ESD) or Admission Avoidance (AA) is the more cost-effective approach.

The results are intended to inform healthcare operations on optimizing resource allocation and expanding sustainable home-based care models.

Methods

A retrospective cohort study was conducted using cellulitis as the primary diagnosis for evaluation. Patients enrolled in the WH@Home program were matched with patients receiving traditional inpatient care based on severity of condition. Cost data

was analyzed from the perspective of the healthcare provider and patients. The analysis aimed to determine whether WH@Home offers a cost-effective alternative while maintaining or improving health outcomes.

Results

Preliminary results indicate that WH@Home achieves cost savings compared to traditional inpatient care for cellulitis treatment. This home care model eliminates direct costs associated with hospital bed usage and facility overheads. An analysis of referral pathways indicated that the Admission Avoidance (AA) model provided greater savings than care delivered through short stay units or Early Supported Discharge (ESD). Patients under the AA model completely avoided hospitalization costs, while those in the ESD model incurred residual expenses from their initial inpatient stays. Additional data is needed to evaluate clinical outcomes between the two groups, particularly regarding complication rates and 30-day readmission statistics, to determine if WH@Home offers safe and effective care without compromising patient health outcomes. More data is needed to be collected to assess patient and caregiver satisfaction with WH@Home services.

Conclusion

Preliminary results indicate that WH@Home is a cost-effective and patient-centered alternative to traditional inpatient care for cellulitis. The Admission Avoidance model, which allows for direct discharge from the emergency department (ED), demonstrated better cost efficiency compared to both short stay units and early supportive discharge, underscoring the benefits of preventing hospitalization entirely. These findings position WH@Home as a scalable solution to Singapore's healthcare challenges, helping to reduce bed demand and optimize resource utilization. Future research should investigate its applicability to other medical conditions and assess long-term sustainability. This includes strategies to encourage direct ED referrals as the primary option, rather than routing patients through short stay units or early supportive discharge from the ward, to facilitate broader adoption across various healthcare settings.

Conflicts of interest related to this abstract: none

P-2171

Woodlands Health@Home: Our Experience in Implementing a Hospital at Home Program for Our Patients

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Introduction

Mobile inpatient care at home (MIC@Home) is gaining traction globally as an innovative alternative to traditional hospital-based care. This model allows patients to receive acute-level medical treatment in the comfort of their homes, reducing hospital stays and enhancing patient satisfaction and outcomes. Woodlands Health, Singapore's newest tertiary care hospital, launched its WH@Home program in May 2024, starting with 15 beds and increasing to 20 beds by January 2025 to cater to the growing demand for personalized, community-based care in the northern region of Singapore. Over the past 10 months, WH@Home has successfully admitted 440 patients and implemented initiatives to enhance operational efficiency and patient outcomes. This abstract highlights our experience, challenges, and successes in implementing this program, offering valuable insights for healthcare systems looking to adopt similar models globally.

Aim/Objective(s)

The WH@Home program aims to provide high-quality acute inpatient care in patients' homes, focusing on safety, efficiency, and a positive care experience. Key objectives include:

1. Reducing hospital admissions and costs by offering an alternative care model.
2. Enhancing patient satisfaction through personalized care in familiar surroundings.
3. Improving caregiver involvement via education and stress management initiatives.
4. Streamlining operations with tools like pre-positioning kits to optimize response times for care teams.
5. Increasing healthcare efficiency by enabling nurses to handle screening and referral reviews through a structured Nurse-Led Screening process.
6. Establishing a sustainable public-private partnership model for 24/7 coverage of patients with varying medical complexities.

Through these efforts, WH@Home seeks to demonstrate the viability of MIC@Home programs as scalable solutions for healthcare systems while maintaining high standards of clinical care and patient safety.

Methods

The WH@Home program utilizes several key strategies to provide effective inpatient care at home:

1. Nurse-led screening: A structured process led by trained nurses facilitates quicker onboarding of eligible patients, enhancing recruitment efficiency and response times while improving patient satisfaction. This approach allows doctors to concentrate on more complex cases, thereby increasing overall efficiency.
2. Pre-positioning kits: Essential medical supplies are pre-stocked at patients' homes upon admission, enabling timely care delivery and minimizing logistical delays during emergencies.
3. Public-private partnership: Collaboration with a third-party clinical vendor extends coverage for non-complex cases and after-hours care, ensuring seamless service continuity.
4. Expanded nursing roles: WH@Home nurses conduct home safety assessments and caregiver training fostering greater family engagement in patient care.

These strategies effectively address operational challenges while maintaining high standards of clinical care in a home-based setting.

Results

Since its launch in May 2024, WH@Home has successfully admitted 440 patients over 10 months, showcasing its effectiveness as an alternative inpatient care model. The nurse-led screening process initiated in the emergency department (ED) in October 2024 has significantly improved recruitment efficiency, shifting focus towards ED recruitment and an admission avoidance model, resulting in increased bed day savings and cost efficiency. Enrolment from the ED rose from an initial 22% to 44%. The introduction of pre-positioning kits in October 2024 has further assisted the care team in minimizing logistical delays, enabling timely interventions during emergencies or acute health episodes. Collaboration with a third-party clinical vendor has extended coverage for non-complex cases after hours, ensuring seamless continuity of care without overburdening hospital resources. WH@Home nurses have also taken on essential roles beyond clinical duties, conducting home safety assessments and caregiver training, which has boosted caregiver confidence. These initiatives have collectively improved bed occupancy rates (BOR), increasing from an average of 34% between May and September to 70% from Oc-

tober 2024 to February 2025. The program effectively integrates acute-level medical care into patients' homes while maintaining high standards of safety and quality.

Conclusion

The WH@Home program demonstrates the transformative potential of MIC@Home models in delivering acute inpatient care within patients' homes while maintaining high standards of clinical quality and patient safety. WH@Home has addressed the logistical challenges of home-based healthcare delivery – challenges not typically found in traditional inpatient wards – by employing innovative strategies like nurse-led screening processes, pre-positioning kits for improved operational efficiency, and public-private partnerships for extended coverage. Beyond clinical outcomes, the program emphasizes holistic care by supporting caregivers through training sessions and home safety assessments – ensuring that both patients and their families benefit from this model of care. WH@Home shows potential for scalability as a sustainable healthcare delivery model to address the increasing demand for community-based acute care solutions. To enhance its impact and scalability, several areas for future development can be explored: optimizing the use of technology for remote and virtual care, broadening the range of services provided, and implementing data-driven quality improvement initiatives.

Conflicts of interest related to this abstract: None

P-2172

Improving Patient Safety Across International Borders: Cultural Transformation Using a Standardized Survey and Multifaceted Educational Intervention

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Introduction

Since 2018, Mount Sinai International has partnered with a 500-bed comprehensive community hospital in southern China, with a staff of approximately 1000 people. The goal of the international collaboration is to establish a long-term quality and safety improvement program that will enable the hospital to reach international standards of healthcare quality. There are perceived barriers to enhancing quality and safety in the collaborating hospital in China following an initial gap assessment of the local healthcare culture, including staff concerns about potential consequences after identifying events, which hinder efforts to detect safety threats and develop solutions

Aim/Objective(s)

We aimed to identify themes of quality and safety gaps at our partner Chinese hospital, perform a multifaceted intervention to improve safety culture, and measure the impact of the intervention on attitudes towards safety issues.

Methods

The Agency for Healthcare Research and Quality (AHRQ) hospital survey version 1.0 was conducted at the partner Chinese hospital in 2019 to establish understanding of staff baseline attitudes and perceptions about local patient safety culture. The survey includes 41 questions across 12 domains. Over 50% of hospital staff participated each year (2019 n = 526, 2020 n = 516). Participants included physicians, nurses, technicians, and administrators. The results of the survey were reviewed with hospital leadership and shared in a town hall forum to frontline staff. Based on the 219 results, a multifaceted intervention was designed and performed. The interventions included leadership education on patient safety, multidisciplinary workshops, anonymous event reporting system development, focused staff recruitment, and nonpunitive safety event review education. The

survey was then repeated in 2020. Responses were compared to data from 2019.

Results

The areas rated most poorly were hospital management support for patient safety (50% positive perception), non-punitive response to error (32% positive), staffing (29% positive), teamwork across units (41% positive), frequency of safety events reported (52% positive), and communication openness among staff across hospital hierarchy (55% positive). We deployed a multifaceted intervention to enhance the patient safety culture at the hospital. The interventions consisted of (1) education on patient safety culture for hospital leadership, (2) quality improvement workshops to enhance inter-departmental collaboration, (3) development of an anonymous submission portal for patient safety, (4) introduction of interdisciplinary patient safety event reviews to adopt a non-punitive method of discovering errors, and (5) development of recruitment plans for critical staffing shortages. In 2020, a second survey was conducted using the AHRQ Hospital Survey version 2.0. The questions were grouped in similar categories as AHRQ version 1.0, and comparisons were made to the 2019 results. Perceived deficiencies in hospital management support for patient safety improved from 50% to 59% positive perception, non-punitive response to error to 36%, staffing to 33%, teamwork across units 45%, and communication openness among staff across hospital hierarchy to 57%. However, the perceived frequency of safety events reported decreased to 48%.

Conclusion

Our international multidisciplinary team successfully utilized the AHRQ survey to identify strengths and areas for improvement in a local context at a hospital in southern China. Survey results demonstrated to local leadership that staff perception of safety culture impacts attempts to identify current areas of need, which is essential to prioritize future quality projects. Mount Sinai International and our partner hospital in China successfully implemented initiatives to improve teamwork-related processes. It was more challenging to improve the perceived frequency of safety events and to address the financial needs for additional staffing. A validated anonymous safety culture survey can spark a conversation of change throughout healthcare organizations internationally, bringing clinicians and administrators from diverse backgrounds together to improve safety culture and patient care. This work suggests that methods of cultural transformation in quality and safety can be shared across countries with different healthcare systems.

Conflicts of interest related to this abstract: None

P-2173

Providing quality care in an uncontrolled environment. The challenge of social services in hospital at home

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Introduction

Hospital-at-Home (HAH) provides high-level care for patients suffering from acute or chronic illnesses at home, avoiding conventional hospitalization. However, numerous factors can impede the feasibility and/or quality of homecare.

These include isolation, functional dependence, caregiver frailty, unsuitability of the home, and socio-economic aspects. To ensure optimal HAH care in patients' own homes, these aspects require specific social expertise.

Aim/Objective(s)

This work outlines the activities of our social services department.

Methods

Data from our social service dashboard has been analyzed for the year 2023.

Results

In 2023, our social service team completed 6,119 actions for 2,582 (16%) HAH patients. Of these, 37% were treated for palliative care, 22% for complex dressings, and 12% for post-chemotherapy monitoring. The primary social issues involved home support (accessibility/adaptation of housing, establishment of assistance services for activities of daily living, meal delivery, remote assistance, etc.), administrative and economic support (help with administrative formalities, financial aid, etc.), and social support (situations of abuse, protection of vulnerable people, etc.). A total of 68% of the situations required reinforced and sustained social support, while 27% of the actions undertaken were motivated by a need to support the primary caregiver.

Conclusion

The provision of care in the home for patients who require high levels of support due to illness, age, or disability requires a comprehensive approach tailored to each individual's circumstances. HAH demands not only medical expertise but also social proficiency, encompassing an understanding of the patient's/caregiver's broader context, including the complexities of home care and the versatility of social action.

Conflicts of interest related to this abstract: None

P-2174

Knowledge, Perceptions, and Practices in Sexual and Reproductive Health: Gaps and Challenges in Colombia for Quality Maternal-Perinatal Care

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Introduction

Maternal Mortality (MM) and Severe Maternal Morbidity (SMM) are significant public health challenges tied to social determinants and health service access inequalities. Globally, in 2020, about 287,000 maternal deaths occurred, with 95% in low- and middle-income countries. In Colombia, despite advancements in maternal care, disparities persist in reproductive health, especially among adolescents and women over 35. These groups face barriers in accessing quality services, comprehensive sexual education, and effective contraceptives, leading to high rates of unwanted pregnancies and complications. Factors contributing to MM and SMM include not just obstetric infrastructure but also sexual and reproductive rights, crucial for preventing complications. Extreme maternal ages (under 19 and over 35) are linked to increased obstetric complications and morbidity. Addressing these issues requires comprehensive strategies to improve health access and education

Aim/Objective(s)

Conduct a diagnosis of knowledge, attitudes, and practices regarding sexual and reproductive rights, gestation, care, and risks associated with maternal morbidity and mortality among key actors and study populations (children, adolescents, women under 19 and over 35 years old during pregnancy or postpartum) in Bogotá, Cartagena, and northern Risaralda.

Evaluate adherence to clinical practice guidelines and the maternal-perinatal care pathway in health service providers.

Methods

This study employs a mixed approach with a concurrent triangulation design, combining qualitative and quantitative methods. The quantitative component, cross-sectional in nature, describes sociodemographic characteristics, knowledge, attitudes, and practices regarding sexual and reproductive rights, gestation, care, and risks of maternal morbidity and mortality. An adapted survey will be applied to children and adolescents (10-19 years), with prior training of survey personnel in ethics and confidentiality. The qualitative component seeks a deep understanding of the causes of maternal morbidity, incorporating the perspective of women under 19 and over 35 years old. Focus groups, discussions, and interviews will explore cultural, socioeconomic, and health system factors. Qualitative analysis will be based on grounded theory, identifying codes, categories, and relationships from the collected and transcribed data. The study will be conducted in 20 educational institutions, community centers, 40 pharmacies, and 18 health centers in Cartagena, Risaralda, and Bogotá.

Results

From the diagnostic process in different scenarios, it is evident that adherence to the Maternal-Perinatal Care Pathway in the evaluated health service providers is low, averaging 75% or less. Adherence to Clinical Practice Guidelines for Severe Maternal Morbidity is even lower, around 55%. A high percentage of adolescents initiate sexual activity without using contraceptives, and many first pregnancies occur between 15 and 19 years old. Additionally, 60% of pregnancies are unwanted. The qualitative component of this research reveals low social participation in the design of sexual, reproductive, and maternal-infant health programs, affecting pregnant women under 19 and over 35 years old. Older women report discrimination in health services for delaying gestation, while younger women face early initiation of sexual life without access to contraception. There is widespread ignorance about sexual and reproductive rights, exacerbated by limited information about available services. Health professionals are key references, although their offerings are little known.

Conclusion

The results highlight the need to strengthen social participation in the design of sexual and reproductive health programs, emphasizing gaps in care for women over 35 years old and adolescents. Low adherence to maternal-perinatal care pathways and guidelines for severe maternal morbidity underscores deficiencies in service quality. This is exacerbated by early initiation of sexual life without access to contraception and widespread ignorance about sexual and reproductive rights. It is essential to strengthen surveillance systems for severe maternal morbidity to identify critical areas and prevent maternal deaths. Furthermore, continuous training of health personnel in quality and safety is required, as well as involving communities in identifying barriers and solutions. These interventions should be part of a comprehensive model that prioritizes the prevention of early pregnancies, reduces severe maternal morbidity, and ensures adequate restoration of health. The approach should include comprehensive sexual education from an early age, with a rights perspective, to empower the population. These actions are essential for promoting safe, equitable, and quality care, protecting sexual, reproductive, maternal, and infant health as key pillars of social well-being.

Conflicts of interest related to this abstract: Ninguno

TRACK 3: ENVIRONMENTALLY SUSTAINABLE, RESILIENT, AND LOW-CARBON HEALTHCARE

P-3001

20 years of sustainable approaches in the cleaning service of the Geneva University Hospitals

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Introduction

The environmental axis was identified as a priority during the first ISO 9001 certification in 2002. To minimize the impact of its activities on the environment, this issue was formalized in the service policy and reinforced by ISO 14001 certification in 2005. This regulatory framework also facilitated the integration of economic and social considerations while maintaining high hygiene standards.

Aim/Objective(s)

This presentation aims to show the progress in ecology and sustainability over the past 20 years within the various missions of the service.

Methods

To implement actions, the service relied on standards and its quality system by applying the PDCA principle as follows:

1. Definition of objectives based on policy
2. Implementation of objectives through projects and action plans
3. Validation of goal achievement in management review
4. Revision of the sustainability strategy based on the discussions

This process consists of a series of approved, executed, and measured projects and actions aligned with the service's policy, leading to a less costly and more environmentally friendly services while maintaining the same level of quality.

Results

Cleaning: We introduced eco-labeled products and eliminating certain harmful substances for the environment and employee health. Today, more than 80% of our floors are cleaned using only microfiber and water. We have also adjusted cleaning frequencies and working methodologies to reduce musculoskeletal risks. Detergent saved: 7,000 liters per year.

Beds: In 2019, we developed a device facilitating duvet dressing and reduce musculoskeletal risks. With the IPC service, we eliminated plastic covers, preventing 8.5 tons of plastic waste. In 2025, we switched to a diluted detergent-disinfectant, reducing product use by a factor of 200, improving working conditions by eliminating unpleasant odors.

Waste Management: For 20 years, the waste management has focused on waste collection and recycling. The number of recycling streams has increased, currently reaching 83, of which 63 are recycled. The total waste volume exceeds 5,000 tons, with the recycling rate stabilizing at 45%. We collaborate with TES to enhance recycling rates while meeting stakeholder expectations. We implemented an e-learning training program on waste management (823 employees trained since July 2024).

Gardens: We introduced beehives and nesting boxes and progressively reduced pesticide use, exploring biological and manual. In 2024, the sector received Bourgeon Bio certification, recognizing eco-friendly green space management.

Conclusion

In conclusion, the service has evolved over 20 years to become more environmentally friendly while maintaining high service

quality. This progress was enabled by a regulatory framework that facilitated the implementation of actions and projects. Today, while the service is no longer certified, it has developed a strong environmental culture. Additionally, the service benefits from committed employees and a management team open to new ideas. These initiatives have led to responsible resource consumption, improved workplace health and safety, and cost reductions.

Conflicts of interest related to this abstract: None

P-3002

4 P's towards environmental sustainability: from Paper to Progress: Power up the Planet

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Introduction

Paper production is a resource-intensive process that contributes to deforestation, high energy consumption, and carbon emissions. Producing one ton of paper emits approximately 1.5 tons of CO₂ and consumes around 24,000 gallons of water. Hospitals are among the largest consumers of paper, using it for patient records, prescriptions, and other administrative tasks. Recognizing the urgent need for environmental sustainability, our organization is committed to achieving net-zero emissions by 2030 through major initiatives such as solar panning, tree plantations, energy-efficient power plants, and microforest projects. Inspired by these leadership-driven efforts, our department took the initiative to contribute at the grassroots level, believing that every small step makes a difference. By reducing paper consumption, we aim to lower our carbon footprint, improve efficiency, and cut costs. This paper explores the impact of paper usage in hospitals and the benefits of sustainable paper reduction strategies.

Aim/Objective(s)

The project aimed to reduce paper consumption in an academic tertiary care hospital by implementing sustainable and digital alternatives, contributing to environmental sustainability and operational efficiency. It focused on optimizing paper usage by identifying key areas of administrative consumption and replacing paper-based processes such as log sheets, appointment lists, schedules, and confirmations with digital solutions. Additionally, the initiative sought to enhance process efficiency through reengineering, behavioral transformation, and monitoring mechanisms while ensuring cost-effectiveness by minimizing paper usage without major investments. Another objective was to measure the environmental impact by tracking reductions in paper use, energy savings, and carbon footprint. Furthermore, the project aimed to foster a culture of sustainability within the hospital by encouraging staff adoption of digital tools. By addressing these objectives, the initiative aimed to create a scalable model for sustainable hospital operations, demonstrating the benefits of digital transformation in reducing waste and improving overall efficiency.

Methods

The project was conducted in an academic tertiary care hospital over 2023–2024, focusing on administrative paper usage. A comprehensive data collection and analysis process assessed the types, purposes, and costs of paper consumption. The study targeted administrative departments, including scheduling, appointment management, and documentation processes. Data was gathered through direct observation, departmental records, and staff feedback to identify high-paper-use areas.

Paper consumption was categorized into coated and uncoated sheets. Coated sheets included educational materials for patients, such as flyers and letterheads, while uncoated sheets comprised A4-sized printer papers, OPD prescriptions, medical certificates, and administrative forms. Key strategies included process reengineering, digital transformation, and behavioral change. Digital alternatives like electronic scheduling and automated reporting replaced paper-based processes. Continuous monitoring ensured compliance and effectiveness. Additionally, paper reduction was integrated into departmental KPIs, promoting sustainability. To motivate staff, competitions and engagement initiatives fostered a culture of responsible resource utilization.

Results

The project successfully reduced administrative paper consumption by 26.09% within one year of implementation, demonstrating the effectiveness of digitalization and process reengineering strategies. A detailed analysis of paper utilization across administrative functions revealed that log sheets, appointment lists, schedules, and confirmation lists were the most significant contributors to paper waste. By replacing these with digital alternatives such as electronic scheduling, automated reporting, and online confirmations, substantial reductions were achieved without any major financial investment. The environmental impact was significant, with 17.1 trees saved, 15,300 gallons of water conserved, and 12,900 pounds of carbon dioxide emissions reduced – equivalent to removing 1.2 cars from the road for a year. Additionally, total energy savings equated to running 21.7 residential refrigerators for a year, and solid waste reduction amounted to 842 pounds, comparable to the daily waste generated by 192 people. These results highlight the dual benefits of sustainability and operational efficiency, demonstrating that hospitals in low- and middle-income countries (LMICs) can achieve significant environmental impact with minimal investment. The project serves as a model for integrating digital transformation into administrative workflows, aligning healthcare operations with global sustainability goals.

Conclusion

This project demonstrates that reducing paper usage through digitalization and process reengineering is a practical, cost-effective, and sustainable approach to improving healthcare operations. By successfully implementing digital alternatives in an academic tertiary care hospital, administrative paper consumption was significantly reduced, leading to notable environmental benefits such as saving trees, lowering carbon emissions, and conserving water and energy. Beyond the environmental impact, this initiative has enhanced hospital efficiency by streamlining administrative workflows, minimizing manual documentation errors, and improving accessibility to records through digital solutions. These improvements contribute to better resource utilization, ultimately leading to cost savings and improved service delivery. To sustain this transformation, paper reduction has been incorporated as a monthly indicator within change management initiatives, ensuring continuous engagement and motivation among staff to uphold sustainability goals. This project also serves as a scalable model for healthcare facilities, particularly in LMICs, proving that sustainability can be integrated into hospital operations without major financial investments. It provides an evidence-based framework for policy development, encouraging hospitals to adopt paperless administrative processes as part of their green hospital initiatives.

Conflicts of interest related to this abstract: None

P-3003

50% Reduction in Greenhouse Gas Emissions at a Large-Scale Hospital: The Case of Hospital Santa Izabel

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Introduction

Currently, the healthcare sector is responsible for 4.4% of global greenhouse gas emissions (Arup, 2019). In this context, hospitals, as major service providers in the sector, must act proactively beyond infrastructure, ensuring the minimization of natural resource usage and, consequently, reducing their greenhouse gas emissions. As carbon neutrality is of utmost importance for mitigating global climate change, the Hospital Santa Izabel (HSI) joined the international commitment Race to Zero (RtZ) in 2021, linked to the United Nations (UN), with the goal of reducing its emissions by 50% by 2030, relative to 2020, and achieving net-zero emissions by 2050. Furthermore, HSI became a signatory to the UN Global Compact in 2024, further expanding its responsibility in fulfilling the 2030 agenda.

Aim/Objective(s)

The primary objective of the project is to reduce greenhouse gas emissions by 50% relative to 2020, within scopes 1 and 2, by implementing actions to decrease the use of natural resources such as water, medical gases, refrigerants, and fossil fuels. Additionally, the project aims to ensure the use of 100% renewable electrical energy (Wind Power) in Hospital Santa Izabel's operations.

Specific Objectives:

- Reduce water consumption.
- Reduce the consumption of medical gases.
- Reduce the consumption of refrigerants.
- Reduce the consumption of fossil fuels.
- Ensure the consumption of 100% renewable energy.

Methods

The project began in 2020 and extended until the end of 2024, divided into five main pillars: water management, medical gas management, refrigerant gas management, fossil fuel management, and electrical energy management. In the water management stage, sectorization of consumption in the main units was achieved through the installation of telemetry meters. Regarding medical gases, the large nitrous oxide tank was replaced with smaller central units. For refrigerant gases, the main consumption points of R-410 gas were mapped, followed by the replacement with more efficient equipment.

Concerning fossil fuels, the use of BPF oil was replaced with LPG in the laundry. In electrical energy management, 100% renewable energy was acquired. This was a multidisciplinary project involving the engineering, maintenance, sustainability, and surgical center departments. Emissions were calculated using the GHG Protocol tool.

Results

Through actions related to water management, primarily discovering leaks via real-time monitoring of pipelines, it was possible to reduce global water consumption by 36%, resulting in a reduction of 52 million liters per year. This generated a savings of US\$ 293,000 dollars per year. In medical gas management, nitrous oxide consumption was reduced by 88%, resulting in a decrease of 2.6 tons per year. Regarding refrigerant gases, the air conditioning system was replaced with a more efficient one (eliminating leaks), reducing R-410 gas consumption by 84% and avoiding the use of 1.5 tons per year. Concerning fossil fuels, the total use of BPF oil was replaced with LPG.

Starting in 2022, the process of acquiring 100% renewable energy from wind power with an I-REC certificate began, eliminating greenhouse gas emissions in scope 2. The combination of these actions resulted in a reduction of 2,387 tons of CO₂ per year, reducing total emissions within scopes 1 and 2 by 54% compared to 2020, achieving the 2030 target already in 2024. Additionally, the resource management improvement actions brought greater efficiency to internal processes, generating savings of approximately U\$ 517,000 dollars per year.

Conclusion

The 54% reduction in greenhouse gas emissions at Hospital Santa Izabel demonstrates that hospitals have the capacity to advance with the commitment to reduce their emissions by 50%. These actions not only mitigate the impacts of climate change but also improve operational efficiency and reduce costs, in this case, generating annual savings of approximately U\$ 517,000 dollars. The adoption of 100% renewable energy, pioneering water management, and the replacement of fossil fuels with cleaner alternatives are examples of innovation that can be replicated in other healthcare institutions. Furthermore, adherence to the Race to Zero and the UN Global Compact reinforces the commitment to consolidated sustainable practices, contributing to the construction of a resilient and environmentally responsible healthcare system. These initiatives can inspire public policies and innovative practices in the healthcare sector, promoting a more sustainable and healthy future for the planet.

Conflicts of interest related to this abstract: None

P-3004

A model of environmental sustainability in an outpatient primary care institution, a commitment from the health sector.

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Introduction

The healthcare sector is responsible for protecting people's well-being; however, it is also one of the main contributors to carbon footprint and negative environmental impacts worldwide. Environmental management in healthcare is essential for sustainability, creating opportunities for global action and healthcare transformation. However, significant challenges have arisen in its adaptation, as the growing climate emergency affects the provision of health services. This is why it is crucial to implement the net-zero emissions target by 2050, investing in decarbonization, renewable energy, and sustainable procurement practices. For this reason, Javesalud is committed to mitigating, reducing, and preventing environmental impacts, aligning its efforts with the Sustainable Development Goals, and striving to reduce the carbon footprint generated by its activities.

Aim/Objective(s)

Implement strategies to identify, measure, and reduce the environmental impact associated with the supply chain and waste disposal, integrating stakeholders to minimize the carbon footprint by focusing on key emission points.

Methods

The carbon footprint estimation at Javesalud was conducted in 2023 in collaboration with the "Green Hospitals Network" and the "Health Care Without Harm Program." The methodology used was based on the collection and analysis of institutional

data related to waste generation, energy consumption, and the procurement of medical supplies. The data was obtained from internal sources within the institution, including waste generation records, energy consumption reports, and financial data associated with the purchase of healthcare supplies. This information was analyzed and assessed by the Global Green and Healthy Hospitals Network to identify the organization's main carbon emitters. Based on the results, three action lines were established to reduce environmental impact: 1). implementation of sustainable procurement, 2). reduction in paper usage, and 3). efficient waste management.

Results

Chemical Product Changes: Substances with 96% to 100% biodegradability were implemented, capable of eliminating up to 99% of microorganisms under high contamination conditions. This reduced cleaning times, eliminated water consumption, and lowered costs by 53.3% compared to the previous year. **Oxo-biodegradable Bags:** Usage was reduced by 3% in 2024 compared to the previous year. These oxo-biodegradable component bags decreased degradation time in the environment compared to conventional plastic. **Rational Paper Use:** Document digitization measures were implemented for administrative and healthcare processes. In 2024, paper ream purchases decreased by 32%, and small reams by 29% compared to the previous year. Paper purchases in 2023 generated a carbon footprint of 15,293 kg/CO₂eq, while in 2024, the footprint was reduced by 30% to 10,563 kg/CO₂eq. **Efficient Waste Management:** Various strategies were implemented, such as "Blue Point", which collected 272 kg of medications and containers for final disposal. Additionally, the "Tapitas por Patitas" initiative collected 112 kg of plastic caps to produce new biodegradable enzyme-based products and provide financial support for animals in vulnerable conditions.

Conclusion

While the healthcare sector is essential for population well-being, it also has a significant environmental impact, particularly in terms of carbon footprint. In this context, Javesalud has committed to reducing its environmental impact through strategies aligned with the Sustainable Development Goals. The implementation of concrete actions in sustainable procurement, paper consumption reduction, and proper waste management has facilitated progress in mitigating, reducing, and preventing its carbon footprint. Measures such as the incorporation of biodegradable supplies, document digitization, and the establishment of waste collection points have proven effective in integrating sustainability. These initiatives have not only contributed to reducing carbon emissions but have also ensured the continued quality of healthcare services while actively engaging various stakeholders. The adoption of comprehensive policies that promote energy efficiency, responsible resource use, and proper waste management is essential to minimizing the environmental impact of the healthcare sector. With a sustainable approach, it is possible to move toward a care model that not only ensures people's well-being but also contributes to protecting the planet, consolidating a more resilient and environmentally responsible healthcare system.

Conflicts of interest related to this abstract: None

P-3005

Advancing Sustainability in Taiwanese Hospitals: The Impact of Digital Transformation and Paperless Strategies.

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Introduction

Healthcare greenhouse gas emissions account for an average of 4.4% of a country's total emissions. To achieve the goals of COP26, ATACH, with the support of the WHO, has brought together over 90 countries in a collective commitment to establishing climate-adaptive and low-carbon sustainable health systems. In line with this initiative, Far Eastern Memorial Hospital (FEMH) signed the Hospital Sustainability Accord in 2023, pledging to achieve carbon neutrality by 2050. FEMH has been advancing digitalization by implementing EMR, KM systems, and Tableau. The adoption not only optimizes hospital administrative processes but also effectively promotes ESG development goals. However, hospital operations still heavily rely on paper-based processes. Outpatient services consuming an average of 1,082,400 sheets annually, including payment slips, next-appointment reminders, and examination order forms. After each visit, patients typically receive three to four paper slips, which are inconvenient, easily misplaced, and lack of sustainability awareness.

Aim/Objective(s)

In the hospital's digital transformation journey, FEMH has aimed to achieve paper reduction and a paperless environment. Over 90% of the Taiwanese population uses LINE as their messaging platform, and more than 100,000 people have linked to the FEMH Official Account. For patients, to reach this goal, the Strategy Planning Department, Information Technology Department, and Nursing Department collaborated to implement the LINE MINI APP for patients. Additionally, FEMH has adopted Microsoft O365, utilizing Teams, Office, Automate, and low-code tools to enhance digitalization across its 3,648 employees. Our hospital also formed a cross-departmental team to implement Microsoft O365, including the Strategy Planning Department, Information Technology Department, Human Resources Department, and Secretary Department. Furthermore, FEMH is advancing personalized Go Mobile solutions, effectively enhancing energy efficiency, reducing carbon emissions, and promoting a paperless environment.

Methods

FEMH has optimized workflows by reviewing processes, eliminating unnecessary paper usage, and consolidating redundant documents while introducing digital tools to drive electronic transformation and achieve a paperless environment. Additionally, the hospital tracks paper reduction figures to demonstrate the effectiveness of the initiative. For patients, FEMH has redesigned payment slips, next-appointment reminders, and examination order forms by optimizing layouts, reducing redundant information, and integrating with hospital information systems. The new consolidated slips are more patient-friendly, featuring clear and concise wording. Simultaneously, an electronic version of the consolidated slips has been developed and integrated into the LINE MINI APP, addressing the issue of excessive paper slips after medical visits. For medical staff, FEMH

has implemented the Microsoft O365 platform, integrating hospital-wide systems into a mobile portal. Additionally, hospital staff have developed custom applications using Microsoft tools, further reducing reliance on paper-based workflows and achieving a fully paperless environment.

Results

Patient-Side Paper Reduction: Following an assessment, outpatient nursing has eliminated eight unnecessary paper slips, including surgical scheduling slips and pathology test slips, saving 98,746 sheets annually. Additionally, consolidating outpatient slips reduces paper usage by 132,550 sheets per year, equivalent to a carbon reduction of 820 kg CO₂e.

Medical-Side Paperless Initiatives: Through various applications, the hospital is estimated to reduce paper usage by approximately 38,962 sheets annually, cutting carbon emissions by 240 kg CO₂e.

- ICU Handover APP: Displays patient conditions using a traffic light system on a ward map and enables automatic data entry, making information more intuitive and accurate. This improves handover efficiency by 60% and reduces paper usage by nearly 12,000 sheets per year.
- 7S Audit APP: Digitalizes auditing processes, reducing paper usage by 792 sheets per year.
- HR APP: Facilitates online contract signing, automates RPA notifications for employees and reviewers, and manages attendance tracking and exception handling. It also enables annual supervisor and committee member reappointments, reducing paper usage by 26,170 sheets per year.

Through these initiatives, FEMH is projected to save approximately 171,512 sheets of paper annually, reducing carbon emissions by 1,056 kg CO₂e.

Conclusion

The implementation of digital transformation strategies at FEMH has significantly contributed to enhancing healthcare services while supporting environmental sustainability. By eliminating unnecessary paper usage and digitizing outpatient and medical staff processes, the hospital has successfully reduced its carbon footprint and improved operational efficiency. The application of Microsoft O365 and LINE MINI APP has streamlined administrative workflows, minimized paperwork, and ensured better data accessibility for both patients and medical teams. These initiatives directly address the issue of excessive paper reliance in hospitals, as outlined in the introduction. By reducing paper waste and implementing mobile-friendly digital solutions, FEMH has improved patient experience, reduced administrative burdens, and strengthened data security. The hospital's efforts align with global sustainability goals, particularly its commitment to achieving carbon neutrality by 2050 under the Hospital Sustainability Accord. Furthermore, FEMH's innovative use of technology, sets a precedent for future healthcare policies and practices. These advancements provide valuable insights for research in healthcare digitalization and sustainability. Ultimately, FEMH's commitment to digital innovation and ESG paves the way for a smarter, paperless, and more efficient healthcare system, reinforcing the importance of continuous technological advancements in modern medical practice.

Conflicts of interest related to this abstract: None

P-3006

An Exploration of Implementing Corporate Sustainability Education Through Experiential Learning

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Introduction

Sustainable development is a global priority. For businesses, governments, and individuals, understanding and applying its principles is essential for future survival and social responsibility. With limited resources, worsening environmental issues, and climate change, sustainability is now a global trend. Businesses must balance economic growth, environmental protection, and social responsibility by integrating sustainability into their core values and operations. Raising awareness fosters long-term stability, strengthens employee and customer relationships, enhances brand image, and accelerates the green transition. Companies should implement concrete action plans, enhance internal training, and cultivate a sustainability-driven culture, ensuring employees understand and practice sustainable development.

Aim/Objective(s)

This project aims to explore how experiential learning can be used to implement corporate sustainability education and enhance employees' understanding and ability to practice sustainable development concepts. Experiential learning emphasizes reflection, learning, and application through real-world experiences, and this method effectively increases employee engagement and learning outcomes. This plan integrates sustainability concepts into daily behaviors and promotes employees' low-carbon living knowledge through a cloud-based platform. The goal is to foster a deep understanding of environmental protection and motivate employees to practice energy-saving and carbon-reducing actions in their daily lives. Employees will not only learn about their daily carbon footprint but also achieve carbon reduction goals through continued participation.

Methods

The Sustainable Inclusive Living Week plan adopts experiential learning to integrate sustainable development and low-carbon living into employees' routines through concrete actions. This project that set a cloud-based platform will offer daily low-carbon options, including: Choosing stairs over elevators. Using eco-friendly tableware to avoid single-use plastics. Prioritizing local ingredients to support sustainable diets and agriculture. Encouraging carpooling or public transportation. Turning off lights and unplugging unused devices. The platform will feature a daily check-in and scoring system, tracking carbon reduction efforts and reinforcing sustainable awareness. To assess employees' knowledge of environmental protection and carbon management, a pre-test and post-test will be conducted. Employees will complete a pre-test before the program to evaluate their baseline understanding. After a week, they will take a post-test to measure progress. This process boosts awareness of low-carbon living and encourages sustainable habits.

Results

The cloud-based website was completed in January 2025, and the activity took place from January 13 to January 20, 2025, with a total of 144 employees participating. From the employees' daily behavior, the highest execution rate was for "consuming local edible ingredients," at 91%, followed by "using eco-friendly and personal tableware," with a 89% execution rate. This can mainly be attributed to most employees dining at the on-site cafeteria, along with effective promotion of using

personal tableware and reducing disposable utensils. The lowest execution rates were observed in "commuting by public transportation or low-carbon modes," at only 35%, and "eating less meat," with a 45% execution rate. This phenomenon was mainly due to the limitations of local transportation infrastructure and personal dietary habits. After the low-carbon living education provided on the cloud-based platform, employees' average knowledge score on low-carbon living increased from 77 to 94, a 22% improvement, with the percentage of employees achieving full marks rising by 196%. Furthermore, the satisfaction rate for the activity exceeded 95%, indicating that the experiential learning method effectively improved employees' awareness of low-carbon living and received widespread positive feedback.

Conclusion

Promoting a low-carbon lifestyle and sustainable development has become a shared responsibility for both businesses and individuals. Experiential learning not only enhances employees' environmental awareness but also helps companies establish a green and responsible corporate image in their journey toward sustainable growth. However, advancing a low-carbon lifestyle is not just a one-time learning activity; it is a long-term commitment. Moving forward, we will continue to improve our knowledge education platform, guiding employees to integrate sustainable development concepts into their daily work and lives. Our goal is to contribute even more to both the sustainable growth of the company and the green transformation of society. Practicing a low-carbon lifestyle requires collective effort. It is not only a responsibility to the environment but also a commitment to future generations. Through ongoing learning and action, we hope to inspire more employees to actively engage in sustainable development initiatives, making a green and sustainable lifestyle an integral part of our corporate culture.

Conflicts of interest related to this abstract: none

P-3007

Sustainable Waste Management Project

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Introduction

Health care contributes to air pollution and GHG emissions through energy consumption (transport, electricity, heating and cooling) as well as product manufacture, procurement, use and disposal. A third significant source of emission primarily derived from the health care supply chain through the production, transport and disposal of goods and services, such as pharmaceuticals and other chemicals, food and agricultural products, medical devices, hospital equipment as well as instruments purchased and used by health care facilities. We acknowledge the impact of climate change to health leading us to consider how the business affects human and environment. Equally, we note the power of a motivated and engaged workforce to significantly promote and influence sustainable practices. Protecting public health through management of waste has its beneficial impacts on the environment, community, financial and social acceptability.

Aim/Objective(s)

Our objective is to divert 20% of the non-hazardous waste generated from the landfill. Under the office of the President & CEO, the Environmental, Social and Governance (ESG) Council was established to develop and drive the sustainability programs of MMC. Our plan is to integrate the ESG principles in the supply chain and processes of the hospital, ensuring the support and

participation of partners and accredited vendors in developing their own green initiatives aligned with the MMC's Green Procurement Program. The GPP is an institutionalized 3-year program developed to design a strategic response to the global call of carbon footprint reduction while continuing to provide quality healthcare services. This program strengthens MMC's commitment to contribute significantly to the movement of Greening Hospital processes by establishing green initiatives (energy and water efficiency and conservation, and waste management) in the entire procurement process.

Methods

Quantitative Data on non-hazardous waste is collected monthly from the different data sources. See Attachment: Table 1 Data Sources and Monitoring Tool and Table 2 Monthly Aggregation of Data on Waste Recovered and Waste Generated

Results

In collaboration with the different departments (Procurement, General Services, Pollution Control Officer, Creatives and Communications Department and Human Resources Management and Development, Hospital Compliance, License and Accreditation), the ESG Council was able to develop hospital-wide activities, with the support and participation of the MMC Community and partners, to boost waste management compliance in the hospital. See Attachment: For the Green results derived from the enumerated initiatives beginning Q4 2023.

- Increased waste diversion from landfill to 20%
- 63, 574 kilograms of waste diverted from landfill (9% increase compared to 2023)

Conclusion

We were able to achieve our goal for 2024 to divert 20% of the generated waste to landfill thru the support of the different departments. Leadership's guidance and oversight and resource allocation are vital in the planning, implementation and evaluation process. The underlying principle of waste minimization to avoid producing waste and recover waste are methods that we have implemented to achieve our goal. The following strategies were in place to ensure the systematic approach in implementing a sustainable waste management program:

1. An updated database for the waste generated per process was established to identify opportunities for prevention, reduction and recycling/recovery.
2. Institutionalized waste minimization in the business process thru continuous education and training for all levels.
3. A written program on waste management was expanded. Our environmental goals are visible and included in the Hospital's Mission-Vision-Quality Objectives.
4. Developed a Green Procurement Program to involve our service providers, suppliers and vendor partners in our journey to sustain our waste minimization practices.
5. Engage our employees, service providers and other stakeholders through activities that promotes social and environmental awareness.

Conflicts of interest related to this abstract: None

P-3008

Beyond the Snapshot: Temporal Analysis of Hospital Carbon Footprints to Drive Climate-Smart Healthcare.

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Introduction

Healthcare is often framed as a victim of climate change, yet the sector is a major contributor, accounting for nearly 5% of global greenhouse gas (GHG) emissions. Hospitals, with their energy-intensive operations, round-the-clock services, and complex supply chains, are among the largest institutional carbon emitters. However, carbon footprint assessments in hospitals typically rely on static, annual reporting, overlooking the seasonal fluctuations that drive emissions – especially in regions with extreme climates. Recognizing this gap, Sultan Bin Abdul Aziz Humanitarian City (SBAHC) pioneered a temporal analysis approach to hospital carbon footprinting. By tracking emissions monthly, this method captures the direct impact of environmental and climatic factors – such as temperature-driven energy demand – on hospital sustainability. This seasonally responsive framework offers a more precise, data-driven approach to reducing emissions in alignment with global and regional goals such as the Paris Agreement and KSA Vision 2030.

Aim/Objective(s)

This project aims to enhance carbon footprint assessments in hospitals by integrating a temporal analysis framework, providing seasonally responsive sustainability insights for healthcare operations in extreme climates. The specific objectives are:

1. To develop a hospital-specific temporal analysis model for carbon footprinting, enabling monthly tracking of Scope 1, Scope 2, and selected Scope 3 emissions.
2. To assess the impact of environmental and climatic conditions on hospital energy consumption, particularly temperature-driven variations in electricity use and HVAC emissions.
3. To provide data-driven recommendations for improving cost and carbon efficiency in hospital operations, integrating insights from a novel cost-emission efficiency metric.

Methods

This study employed a hybrid carbon footprint assessment approach integrating activity-based and spend-based methodologies. The analysis focused on SBAHC, a 511-bed rehabilitation hospital, tracking Scope 1, Scope 2, and selected Scope 3 emissions.

Data Collection & Tools:

- Activity-based data was used to quantify Scope 1, Scope 2, and parts of Scope 3 emissions, sourced from hospital records, utility bills, fuel logs, procurement databases, and equipment inventories from January to December 2023.
- Spend-based methodology was applied to estimate emissions from Scope 3: Purchased Goods & Services and to fill gaps in activity-based data.
- A custom-built carbon footprint calculator, incorporating UK DEFRA emission factors, enabled monthly data tracking.

Data Analysis:

- Temporal analysis assessed seasonal variations in emissions, particularly temperature-driven energy use.

- Additionally, a cost-emission efficiency metric was introduced to evaluate carbon and financial impact per unit of activity.

This methodology provided granular, time-sensitive insights into hospital emissions, supporting evidence-based sustainability interventions.

Results

SBAHC's total carbon footprint for 2023 was 40.61 kilotons (kt) CO₂e, with Scope 2 emissions (grid electricity) dominating at 50.52%. Traditionally, hospital sustainability efforts focus on Scope 3 emissions, as global studies suggest that supply chain activities – such as procurement of pharmaceuticals and medical devices – are the largest contributors. However, at SBAHC, grid electricity surpassed purchased goods and services (35.83%), highlighting the outsized impact of energy consumption in temperature-extreme regions. Temporal analysis revealed seasonal peaks in electricity emissions in June through September, aligning with extreme summer temperatures. These spikes correspond to increased HVAC use, confirming that climate-driven energy demand is a key determinant of hospital emissions; necessitating the need for seasonally adaptive energy efficiency strategies. Scope 1 emissions (2.39%) were primarily from refrigerants (0.95%) and vehicle fuel (1.06%), making them relatively minor contributors. Waste generated from operations accounted for 11.24% of Scope 3 emissions. Additionally, the cost-emission efficiency metric flagged refrigerants and grid electricity as the least environmentally/operationally efficient emission sources. Refrigerants had a disproportionately high emissions per unit cost, suggesting potential leaks or the use of high-global-warming-potential (GWP) gases. Grid electricity also showed inefficiencies, reinforcing the need for energy optimization strategies.

Conclusion

Hospitals are affected by and contributors to climate change, yet traditional carbon footprinting fails to account for the seasonal drivers of hospital emissions. This study demonstrates that static, annual assessments risk misidentifying emission hotspots, potentially leading to ineffective sustainability interventions. By integrating temporal analysis, SBAHC's carbon footprint study provides a more precise, data-driven approach to hospital sustainability, particularly in climate-sensitive regions. The findings revealed seasonal peaks in electricity emissions (Scope 2) driven by extreme summer temperatures, emphasizing the need for seasonally responsive energy management policies. Additionally, the cost-emission efficiency metric identified refrigerants and grid electricity as operationally inefficient, highlighting opportunities to optimize HVAC systems and improve refrigerant management. These insights can help hospitals allocate resources more effectively, reducing both environmental impact and operational costs. This approach has direct implications for policy, practice, and research. Policymakers can use dynamic footprinting methods to guide climate-smart hospital design and energy strategies. Healthcare administrators can implement real-time sustainability interventions based on data-driven insights. Researchers can expand on this model to develop globally adaptable, seasonally responsive sustainability frameworks. SBAHC's study highlights the urgent need for healthcare institutions to adopt real-time, evidence-based carbon management strategies, shifting hospitals from passive observers to active leaders in climate resilience.

Conflicts of interest related to this abstract: None

P-3009

Building resilience in health infrastructure: a toolbox for evidence-based decision making in fragile contexts.

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Introduction

Health infrastructure plays a pivotal role both during and after crises, providing life-saving care and supporting community recovery. To fulfill this critical function, health facilities must remain resilient, adapting to disruptions while maintaining essential services. Frameworks and guidelines have been developed to support health facilities preparedness and capacity to respond to crises. While their relevance is fundamental, limitations to their applicability have been noted, and addressed by the study here presented. They either adopt a silos approach, addressing on either the clinical side or the engineering side, while neglecting to capture their interdependencies. Others fall short on providing action-oriented results; and they do not capture complexity of fragile contexts. The ICRC recognized the need to overcome such challenges and proposed an interdisciplinary approach to address resilience of health infrastructures. Partnering with academia this effort led to the co-development of an evidence-based toolbox designed to help international organizations and local partners.

Aim/Objective(s)

The study applies a systems-based approach to health infrastructure to establish a comprehensive assessment framework that captures the complexity and interdependencies of its technical, organizational, and clinical sub-systems. Using a case-study based approach, the resilience framework is operationalized into a digital toolbox, designed to support decision makers in planning and managing health infrastructure programs in various crisis scenarios such as conflict-like scenarios. The decision-making support toolbox is evidence-based, transparent, context-sensitive, time-sensitive, feedback-oriented, action-oriented, objective, interdisciplinary and integrates both engineering and health related aspects.

The case-study adopted for the work is a public hospital in Beirut, Lebanon. Validation has taken place in the broader Lebanon, and a methodology for general / global adoption has been developed and validated by a pool of experts. A specific focus for the work has been placed on a conflict or blast-like scenario, triggering Mass Casualty Incidents.

Methods

The study was developed via a co-design process grounding the academic approach to the real humanitarian implementation needs and capacities. It adopted a mixed-method approach, combining hard sciences with Soft System Methodology. A literature review (scientific and grey) ensured rigor to contextualized case-study findings. System thinking has been applied for problem framing and structuring, combined with stakeholder assessment (sampled via snowballing effect), social network analysis, and expert consultations through focus groups and individual meetings. The resilience framework was operationalized using context-specific methods. Resilience is measured by assessing service reduction following a disruptive event. The methodological approach includes the following steps: conceptualizing the system under analysis, setting service measures, and assessing resilience. Hospital resilience is quantified using service indicators, relying on scientific literature and expert input. Stress-testing is applied to quantify service loss in one of the operational tools.

Results

The results consist of a scientific framework and an operational toolbox, derived from its application. Scientific framework: The "6Ss framework", conceptualizes health infrastructure as a system composed of six interdependent sub-systems: Space; Strategic Structure & Governance; Services; Staff; Stock And Supply; Society, Operational Health Infrastructure Toolbox: it is an evidence-based toolbox composed of three nested digital tools, moving from broad and qualitative to detailed and quantitative. These:

1. Rapid Resilience Assessment (RRA) An excel-based checklist providing qualitative rapid facility assessment. It requires no hard date and generates automated, color-coded alerts with recommended actions.
2. Overall Hospital Resilience Assessment (OHRA) a hospital-level, excel-based, tool combining qualitative and quantitative data, to estimate services losses (e.g. mortality rates, length of stay, ED time, surgery cancellation rates)
3. Mass Casualty Incident (MCI) Planning tool, an offline software that models, based on specific resource input, 1) service capacity in an MCI provided per department and patient profile; 2) Resource supply/demand dynamics during the MCI.

The tools can be used independently, combined, or iteratively depending on project phase, stress event proximity, and data availability. The toolbox was validated in Lebanon, with a generalization methodology developed for broader contexts.

Conclusion

The transdisciplinary work resulted in a practical toolbox to support evidence-based decisions, and to inform resilience-enhancing actions for health infrastructure in times of crises, particularly within humanitarian settings. It can serve humanitarian organizations as well as local partners as hospital management or Ministers of Public Health by providing structured insights to enhance preparedness and response. It builds on existing and recognized valid works in the domain of DRR, hospital safety, and more, while addressing the operational realities of humanitarian actors including limited access to data, significant pressure, limited resources, and complex multi-stakeholders environments. Rather than replacing expert decision-making, it facilitates, systematizes and integrates it, ensuring an evidence driven process. By adopting a system-based and

supply-demand approach, the toolbox enables integrated resilience assessments across engineering and clinical disciplines, providing actionable insights for internal reporting, funding allocation, prioritization, and resources planning. It showed the relevance of applying Soft system methodologies to complex problem framing and decision making, and it satisfied the objective of integrating the Infrastructure and clinical dimensions in its operational results, for a more informed and streamlined decision making process.

Conflicts of interest related to this abstract: None

P-3010

Creating Will and Thrill: Global Lessons from Striving for Collective Net Zero Emissions Progress, Challenges and Opportunities – A Roundtable Forum

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Introduction

Hospitals face many priorities that are perceived to compete with making progress on addressing the global health issue of our time: emission reduction to mitigate climate change. Although this is a multi-sectoral challenge, success cannot be realized without key progress by – and leadership from – the healthcare industry. Further, national and global healthcare industries have a unique and timely opportunity to better position the healthcare industry (among other key actors in their country) in their respective country as a leader and catalyst on this important health issue.

How to make collective progress on achieving timely NZE, especially when key sector, political and/or government actors are neutral or contra to the effort, is a critical need globally for healthcare leaders and the communities they serve locally. Creating and shaping a more supportive environment will help any single hospital/healthcare system's efforts – and all hospitals' efforts.

Aim/Objective(s)

Consistent with the sub-track category

"Striving for system change in the healthcare ecosystem to achieve net zero," the aim is to facilitate the sharing of lessons learned in mobilizing a nation's healthcare industry to achieve NZE in a timely manner. The focus is on collective action (country level healthcare system change) to complement sessions focused on single hospital action (hospital level system change). The intent is to engage appropriate leaders with diverse professional backgrounds (health, political/governmental, independent and global/WHO, etc.) from a selection of countries (balanced for HIC, LIC, geography, etc., and biased for relative progress made in their environment).

Methods

Each speaker will be asked to provide an executive summary of their story and respond to specific questions, e.g.,: How did you (your country, industry, etc.) make progress? What are current challenges, ideas & next steps for moving forward? What are observations and/or suggestions for dealing with resistance and headwinds? What can individual hospitals and healthcare industry leaders do to help outside the walls of their own organization?

Results

Past Results: Progress to date, will be summarized and shared by country/speaker with global perspective from moderator.

Future results. Because this session is future-facing, the intent is to use the platform of various lessons from subject matter experts (SME) in country collective action to stimulate collegial dialogue to advance thinking and problem solving on current

challenges. SME, moderator and audience questions for understanding with each other will be facilitated. In order to make better collective progress, what would you suggest we think about given this/XYZ situation/issue in my country?

Conclusion

There is a growing body of knowledge on leadership and technical aspects of how to decarbonize (skillset and toolset) a hospital (vertical leadership). However, there is relatively little knowledge on leadership lessons of how to create system change in the broader healthcare environment and ecosystem. Relative to the vertical organizational leadership needed for a hospital's decarbonization, the need for stronger horizontal leadership to address bottlenecks for collective emissions reduction across a country's healthcare industry are arguably more related to will and thrill (mindset and ready-set). Both vertical and horizontal leadership skills are re-enforcing as collective political and multi-sectoral will are enablers for organizational thrill, i.e., readiness and motivation acceleration.

Conflicts of interest related to this abstract: None.

P-3011

Driving sustainability and resilience: A green hospital model integrating smart technology and cross-sector collaboration in Taiwan

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Introduction

The healthcare sector is pivotal in addressing global sustainability challenges, particularly in reducing carbon emissions and enhancing resilience. Taiwan has proactively aligned its healthcare systems with the United Nations Sustainable Development Goals (SDGs), emphasizing environmentally sustainable and patient-centered care. This study highlights the implementation of green and resilient practices in a public-private hospital in Taiwan, incorporating environmental stewardship, energy efficiency, and smart technology into its operations. Additionally, collaboration with the Tainan City Fire Department established a cross-sector coordination platform to enhance real-time sharing of medical and emergency information, addressing urgent care and resource allocation challenges. These initiatives demonstrate how integrating sustainability principles, advanced technology, and cross-sector partnerships can transform healthcare systems. By sharing these insights, the study aims to inform global efforts in creating scalable, adaptable, and sustainable healthcare models.

Aim/Objective(s)

This study aimed to explore the design, implementation, and outcomes of sustainability and resilience initiatives at a public-private hospital in Taiwan. The objectives were threefold: (1) to evaluate the environmental impact of energy management strategies and waste reduction measures, (2) to assess the effectiveness of a cross-sector coordination platform in enhancing emergency response and resource allocation, and (3) to investigate the role of artificial intelligence (AI) and digital transformation in improving operational efficiency and decision-making. The study also sought to identify the challenges encountered during implementation and the innovative solutions developed to overcome these challenges. By analyzing these initiatives, this research contributes to a deeper understanding of how hospitals can integrate sustainability principles into daily operations and offers practical recommendations for replicating these practices in diverse healthcare settings.

Methods

A Sustainability Development Committee oversaw the implementation of green initiatives, including energy optimization, waste reduction, and the adoption of Internet of Things (IoT)-enabled healthcare systems. Collaboration with the Tainan City Fire Department facilitated the development of a smart inter-departmental coordination platform for real-time medical and emergency information sharing. Participants included hospital staff, patients, and emergency service personnel. Data collection involved energy consumption statistics, waste management data, patient satisfaction surveys, and system usage metrics. Qualitative interviews and focus groups were conducted to gather stakeholder feedback. Descriptive and comparative statistical methods were employed to analyze the environmental, operational, and social outcomes of the initiatives. Performance indicators included energy savings, waste reduction percentages, emergency response efficiency, and user satisfaction levels, providing a comprehensive evaluation of the implemented strategies.

Results

The hospital achieved notable environmental, social, and operational outcomes through its sustainability initiatives. Energy consumption decreased by 20% following the implementation of advanced energy management systems and infrastructure upgrades. Waste reduction measures led to a 25% decrease in both medical and non-medical waste. The cross-sector coordination platform, developed in collaboration with the Tainan City Fire Department, significantly improved emergency response times and resource allocation, enhancing the efficiency of urgent care delivery. Integration of AI and data analytics improved medical decision-making accuracy and resource management, contributing to a more effective and patient-centered care model. These achievements were recognized internationally, with the hospital earning HIMSS EMRAM Stage 6 certification in 2024, highlighting its success in adopting digital health innovations. Community engagement initiatives, such as public health campaigns and workshops, increased local awareness of sustainable practices. Despite challenges related to resource constraints and infrastructure limitations, the hospital developed innovative solutions, including public-private partnerships and scalable digital tools. These results underscore the potential of integrating sustainability, technology, and cross-sector collaboration to transform healthcare systems.

Conclusion

This study demonstrates the transformative potential of integrating sustainability principles, advanced technologies, and cross-sector collaboration in hospital management. The green and resilient hospital model implemented in Taiwan achieved significant environmental, social, and operational benefits, including energy savings, waste reduction, and improved emergency response efficiency. The successful adoption of AI and IoT-enabled healthcare systems not only enhanced decision-making accuracy but also contributed to a more patient-centered and efficient care model. These achievements align with the United Nations SDGs, offering a scalable and adaptable framework for global healthcare systems aiming to achieve net-zero goals. The study further highlights the importance of collaboration among healthcare providers, government agencies, and private-sector partners in overcoming implementation challenges and driving sustainable innovation. By sharing lessons learned and innovative solutions, this research provides actionable insights for policymakers, healthcare leaders, and practitioners seeking to replicate similar models in diverse contexts. Future research should focus on long-term evaluations and strategies to ensure the scalability and sustainability of these practices in various healthcare environments.

Conflicts of interest related to this abstract: None

P-3012**EcoMed Summit**

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Introduction

The Medical Director of soH is actively fostering collaboration between policymakers, senior physicians, and healthcare management to develop a sustainability agenda. The primary objective is to align strategies and commitments at all levels, ensuring effective implementation of environmentally conscious healthcare practices. The EcoMed Summit serves as a central platform for exchanging knowledge, setting new impulses, and facilitating networking among stakeholders in politics, healthcare, and business to drive sustainability initiatives forward.

Aim/Objective(s)

The EcoMed Summit aims to:

- Enhance awareness and commitment to sustainability in healthcare management.
- Identify innovative approaches to reducing resource consumption and emissions within hospitals and outpatient care.
- Develop practical strategies for integrating environmentally friendly practices into medical care and hospital infrastructure.
- Promote interprofessional and interdisciplinary collaboration to foster long-term ecological improvements.
- Establish a framework for continuous monitoring and evaluation of sustainability initiatives.

Methods

The EcoMed Summit, held biennially, brings together participants from politics, healthcare, and industry to evaluate and advance sustainability efforts. The summit employs the following methodologies:

- Panel discussions featuring policymakers, healthcare executives, and environmental experts from Europe.
- Case study presentations showcasing successful sustainability projects within hospitals and outpatient care.
- Interactive workshops to facilitate the co-creation of actionable strategies for sustainable healthcare management.
- Data collection through stakeholder surveys and expert interviews to track the effectiveness of sustainability initiatives.
- Implementation of a monitoring system to assess progress and celebrate achievements in subsequent summits.

Results

- High participation rates demonstrated broad stakeholder interest in sustainable healthcare.
- Strengthened interprofessional collaboration between politics, management, hospitals, and outpatient care providers.
- Launch of several sustainability projects, including a successful gastroenterology initiative.
- Increased political engagement, leading to the integration of sustainability goals into hospital owner strategies.
- Expansion of the previous prevention competition to include sustainability-focused projects, financially supported by the canton.
- International contributions from global sustainability experts provided fresh perspectives and innovative solutions.
- Accreditation of the summit for medical education, encouraging participation from outpatient physicians.
- Future initiatives include continuing education programs for healthcare professionals on sustainable practices.

Conclusion

The EcoMed Summit has proven to be a valuable initiative for promoting sustainability in the healthcare sector. By fostering interdisciplinary collaboration and engaging political stakeholders, the project has successfully integrated sustainability into hospital management and policy frameworks. The continuous monitoring and evaluation of sustainability initiatives ensure measurable progress and accountability. Future congresses, such as the planned 2026 summit, will build upon these successes by expanding training programs and further developing sustainability strategies. This model provides a replicable framework for other healthcare organizations aiming to integrate sustainable practices into their operations, ultimately contributing to environmentally responsible and efficient healthcare systems.

Conflicts of interest related to this abstract: NONE

P-3013**Economic and environmental impact of replacing non-rechargeable batteries with rechargeable ones**

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Entre Douro e Vouga Local Health Unit (EDVHLU), Portugal

Introduction

Batteries are widely used in hospitals, powering a variety of medical equipment. However, non-rechargeable batteries have a significant ecological footprint due to their content of heavy metals, such as mercury and lead, which are harmful to the environment. Their extraction and processing consume natural resources and energy, contributing to the carbon footprint. When disposed of improperly, they can contaminate soil and water. It is therefore essential that they are disposed of at appropriate collection points. Rechargeable batteries have emerged as a more sustainable alternative, offering greater energy efficiency and being able to be recharged 500 to 1000 times. Although the initial investment is higher, the cost per use is lower, resulting in long-term savings and extending the useful life of the devices. In 2024, our institution consumed approximately 23,000 non-rechargeable batteries, highlighting the need to transition to more sustainable options.

Aim/Objective(s)

The project to be developed at our institution aims to fully replace the use of non-rechargeable batteries with rechargeable ones. The aim is to drastically reduce the volume of polluting waste produced by our institution and at the same time generate economic savings.

Methods

With the positive impetus of the board of directors, it was decided to go ahead with the purchase of non-rechargeable batteries to replace the use of rechargeable batteries. Initially, and as a pilot project, we will introduce this change in the three services that consume the most batteries in our institution: Cardiology, Pulmonology and Physical Medicine and Rehabilitation, fully replacing the use of non-rechargeable batteries with rechargeable ones. The aim is to optimise the operational flow of the use of this type of battery and then, in the short term, extend it to all the institution's services. The use of each rechargeable battery will then be counted and converted into the corresponding number of non-rechargeable batteries, and the economic and environmental impact of reducing the use of non-rechargeable batteries will be assessed.

Results

Our institution used approximately 23,000 non-rechargeable batteries in 2024 and spent 4,377 euros buying them, which

comes to a price of approximately 0.19 euros per battery. Assuming that the average price of a rechargeable battery is around 2 euros (depending on the brand and capacity) and estimating that a rechargeable battery can be recharged at least 500 times, the total cost of a rechargeable battery over that number of uses will be 2 euros. To replace 23,000 non-rechargeable batteries, 46 rechargeable batteries will be needed ($23,000 / 500 = 46$ batteries). The total cost of rechargeable batteries will be 92 euros ($46 \text{ batteries} \times 2 \text{ euros} = 92 \text{ euros}$). This change will generate annual savings of 4285 euros. With regard to the waste generated, and estimating that each non-rechargeable battery generates around 0.1kg of waste, the overall amount of waste created will have been 2300kg. Rechargeable batteries also have a negative environmental impact, but to a lesser extent because they are reused. Assuming they generate 0.1 kg of waste at the end of their useful life, a total of 46 rechargeable batteries will generate 4.6 kg of waste. This change generates a saving of 2295.4kg in environmentally harmful waste.

Conclusion

Replacing non-rechargeable batteries with rechargeable ones is a crucial measure for environmental protection and economic sustainability. When disposed of, non-rechargeable batteries contribute significantly to soil and water pollution, releasing toxic substances that can harm ecosystems and human health. In contrast, rechargeable batteries have a much longer lifespan, reducing the amount of waste generated and reducing the need to extract raw materials such as lithium and cobalt, which are often exploited in unfavourable environmental and social conditions. From an economic point of view, investing in rechargeable batteries can lead to significant cost savings in the long term. Although the initial price of rechargeable batteries may be higher, their durability and the possibility of recharging them several times result in substantial savings.

This project being carried out at our institution is an important gesture that underlines our commitment to providing greener and more sustainable healthcare.

Conflicts of interest related to this abstract: None

P-3014

Effectiveness of Green Healthcare: A Case Study of Eight Medical Centers in Northern Taiwan

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Introduction

As global climate change intensifies, the healthcare industry has become a significant source of greenhouse gas emissions. According to research by the World Health Organization (WHO) and Health Care Without Harm (HCWH), the healthcare sector accounts for approximately 4.4% of global greenhouse gas emissions. In Taiwan, healthcare institutions are also major energy consumers, representing 15.97% of non-productive energy consumption. Consequently, Green Healthcare has emerged as a critical development direction within global healthcare systems, aiming to reduce environmental impacts and enhance hospital sustainability through strategic initiatives.

Aim/Objective(s)

This study aims to analyze the effectiveness of green healthcare practices in eight medical centers in Northern Taiwan and evaluate their performance against the ten green hospital indicators proposed by HCWH (Leadership, Chemicals, Waste, Energy, Water, Transportation, Food, Pharmaceuticals,

Buildings, Purchasing) to identify key success factors and challenges in promoting green healthcare.

Methods

The study selected eight medical centers that published sustainability reports from 2021 to 2023 and assessed them based on the ten green hospital indicators outlined by HCWH (2011). AI semantic analysis technology (OpenAI ChatGPT) was utilized to analyze the content of each hospital's reports. Scoring and comparisons were made based on international certifications (e.g., ISO14064, ISO50001), data indicators, and environmental impacts.

Results

The findings indicate that the total scores for the green hospital indicators among the eight hospitals ranged from 82 to 88, showing minimal variation. Among them, Shuang Ho Hospital and Chang Gung Memorial Hospital scored the highest (88), followed by Taipei Veterans General Hospital and Tzu Chi Medical Center (86), while Far Eastern Memorial Hospital, Shin Kong Wu Ho-Su Memorial Hospital, and Mackay Memorial Hospital had slightly lower scores. Water resource management (average score of 9.75), leadership (9), and energy management (9) performed the best, whereas transportation management (7.125) and chemical management (7.875) were relatively weaker. Some hospitals still have room for improvement in renewable energy application, low-carbon transportation, and green pharmaceutical procurement.

Conclusion

This study finds that Taiwan's medical centers have made significant strides in promoting green healthcare, particularly in water resource management, energy management, and waste disposal. However, there is still a need for further improvement in areas such as low-carbon transportation, environmental standards in the supply chain, and the promotion of sustainable diets. Future recommendations include expanding low-carbon transportation programs, increasing the proportion of renewable energy usage, strengthening green supply chain management, promoting AI-driven healthcare innovations, and implementing sustainable dietary policies to achieve more comprehensive green healthcare goals. The results can serve as an important reference for healthcare institutions in Taiwan and globally in advancing sustainable healthcare practices.

Conflicts of interest related to this abstract: none

P-3015

Effectiveness of the Climate Sustainability Manager Training for Employees at Taichung Veterans General Hospital

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Introduction

In 2023, Taichung Veterans General Hospital signed the "Hospital Sustainability Development Initiative" with the Taiwan Institute for Sustainable Energy (TAISE), actively promoting sustainability in healthcare. To enhance employees' understanding of climate change and sustainability management, TVGH launched the "Climate and Health Certification Training Program." This study evaluates the effectiveness of this training in improving employees' knowledge and awareness of climate change and sustainability. A total of 40 employees from TVGH, its affiliated branches, and nearby partner healthcare institutions participated, with a 100% survey response rate. Additionally, qualitative interviews were conducted with four employees

from different job levels. Findings indicate a significant improvement in employees' understanding of climate risks and sustainability strategies. Moving forward, TVGH plans to implement a Task Force on Climate-related Financial Disclosures (TCFD) advisory project to develop a climate risk management framework, serving as a reference for hospitals transitioning to net-zero emissions and strengthening climate governance.

Aim/Objective(s)

Since 2023, Taichung Veterans General Hospital has collaborated with the Taiwan Institute for Sustainable Energy to promote the "Climate and Health Manager" training program. This initiative aims to enhance employees' knowledge and application of climate change and hospital sustainability management. This study assessed the effectiveness of the training by analyzing quantitative survey data (100% response rate) from 40 participating employees and conducting qualitative interviews with four employees from different job levels. The study identifies challenges faced in practical implementation and provides recommendations for future hospital sustainability policies, facilitating the healthcare sector's transition to low-carbon operations and more effective climate governance.

Methods

This study evaluates the impact of the "Climate and Health Manager" training program on hospital employees' knowledge and application of climate change and sustainability management. The subjects were 40 employees who participated in the training. Their knowledge and behavioral changes were assessed through pre- and post-training surveys (100% response rate). Additionally, semi-structured interviews with four employees from different job levels provided insights into practical challenges. For analysis, paired sample t-tests and Wilcoxon signed-rank tests compared pre- and post-training results to quantify knowledge improvement. Qualitative interviews were analyzed using thematic analysis to assess the training's impact on knowledge, attitudes, and applications. The study identified factors affecting sustainability initiatives and areas for improvement. By integrating quantitative and qualitative data, this study comprehensively assesses the training's effectiveness and provides recommendations to enhance hospital sustainability policies, supporting healthcare's transition to low-carbon, climate-resilient practices.

Results

Statistical analysis revealed a significant improvement ($p < 0.05$) in employees' knowledge in the following areas:

- Main sources of hospital carbon emissions: Increased by 1.56 points (2.92 → 4.47)
- ISO-14067 and ISO-14068 standards: Increased by 2.31 points (1.97 → 4.28)
- Task Force on Climate-related Financial Disclosures (TCFD) concepts: Increased by 2.17 points (1.86 → 4.03)

The results demonstrate that the training program effectively enhanced employees' understanding and application of climate change management concepts. Qualitative interview findings further indicate that most employees found the training beneficial in improving their awareness of hospital sustainability strategies. However, they also identified several challenges in practical implementation, including:

- Insufficient resource allocation
- Difficulties in cross-departmental collaboration
- Challenges in enforcing carbon management policies

Some interviewees suggested that the hospital should strengthen its sustainability culture, provide clear implementation guidelines, and allocate continuous resources to ensure that training outcomes translate into concrete actions. The study confirms that systematic training can effectively enhance climate awareness and management capabilities among

healthcare professionals, ultimately supporting hospitals in transitioning toward low-carbon and sustainable development.

Conclusion

This study confirms that the "Climate and Health Manager" training program significantly enhances hospital employees' knowledge of climate change and sustainability management, particularly in key areas such as carbon emission sources, international standards, and financial disclosures. The average improvement in knowledge ranged from 1.56 to 2.31 points, demonstrating the effectiveness of the training in strengthening climate-related competencies. However, interview findings highlight persistent challenges in practical application, including difficulties in integrating sustainability policies within the hospital, resource constraints, and a lack of follow-up action plans. To address these issues, hospitals should:

- Establish a dedicated climate governance team
- Implement internal incentive mechanisms
- Strengthen cross-departmental collaboration

Additionally, continuous advanced training should be promoted to deepen employees' understanding of carbon reduction and climate adaptation, ensuring that hospitals can successfully transition to low-carbon operations in the long term. These findings provide valuable insights for hospitals to develop more comprehensive climate governance strategies, driving sustainability innovation and implementation within the healthcare sector.

Conflicts of interest related to this abstract: None

P-3016

Emergency Medicine and Sustainability: Optimizing a Care Process Through Life Cycle Analysis

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Introduction

Healthcare systems are significant contributors to greenhouse gas emissions on a national scale, with hospitals playing a major role. Emergency departments, due to their high patient flow and extensive use of diagnostic tests, contribute substantially to these emissions. Notably traumatologic patients often require basic radiologic exams, immobilization, secondary radiologic exams and specialized consultation.

Aim/Objective(s)

This study aims to perform a life cycle assessment (LCA) of a common pathology treated in emergency settings and to optimize the management protocol to reduce its carbon footprint while maintaining care standards

Methods

Limb injuries are by far the most common reason for consultations in our outpatient emergency unit (approximately 15% of 44'000 entries), with knee injuries being particularly frequent. These cases often require additional diagnostic tests (e.g., standard X-rays, MRIs), making them an ideal candidate for analysis. The environmental assessment employed the LCA methodology, which evaluates not only the direct impact of diagnostic tests, particularly imaging, but also consumables, facilities, and potential waste. Stepwise interventions were implemented to reduce the use of standard X-rays outside the Ottawa criteria (e.g., staff training, computerized alerts). The impact of these measures was assessed over a 2-month period in a pre-post intervention design, and a final LCA was conducted to estimate emission reductions.

Results

The average LCA for managing a knee injury in the emergency department showed emissions of approximately 11.5 kg CO₂ equivalent (CO₂ eq). The largest contributor was patient transportation (45%), followed by consumables (18%), medications (14%) and staff transportation (13%). Standard X-rays accounted for 3.5% of total emissions. A threefold difference was observed between the minimum (8.1 kg CO₂ eq) and maximum (22.1 kg CO₂ eq) scenarios. As acting on patient transportation seemed not realistic in an emergency setting, we concentrated on the other items. Training et situation reminders of applying the Ottawa criteria reduced unnecessary X-rays from 26% to 4% of total radiological exams. Changes in the ordersets of prescription were made to avoid overprescription of painkillers. Protocols were adapted to reduce the use of metallic splints and walking sticks. Other interventions, like the introduction of TripCast score to reduce unnecessary prophylactic anticoagulation, are now being implemented.

Conclusion

Using LCA as an objective measure of an emergency care process allows for the identification of its various contributors and enables the adjustment of protocols based on sustainability criteria. Among the interventions, the implementation of computerized alerts to reinforce the Ottawa criteria significantly reduced unnecessary standard X-rays, demonstrating the potential for sustainable improvements in emergency care practices.

Conflicts of interest related to this abstract: None

P-3017

Empowering French health and social care providers towards sustainability

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Introduction

In 2023, the French Ministry of Health missioned Anap to contribute to the National roadmap for the ecological transition of the health system. The roadmap has 9 strategic priorities, and Anap pilots several:

1. Steering and carbon neutrality
2. Estate and energy management
3. Health products
4. Sustainable procurement
5. Eco-responsible care
6. Waste
7. Training in the healthcare sector
8. Sustainable mobility
9. Environmental impact of the digital

Aim/Objective(s)

Anap's mission is to support the evolution of the system and build capacity to respond to climate and environmental challenges. The aim of Anap's work towards sustainability is to empower care providers (from university hospitals to nursing homes) in engaging with an ecological transition. We have been observing a real change in the dynamic since we started our actions, from very local initiatives to major shifts in the health sector in France.

Methods

Anap's work on sustainable development (SD) takes place in the national roadmap for the ecological transition of the health system. It entails:

- The administration of a network of 165 energy and ecological transition advisors (CTEES), working in over 5,500 health and medico-social organizations.

- The training of 96% of the regional/territorial hospital groups' boards (directors and CMOs)
- In terms of policy monitoring, Anap closely follows projects' progresses according to the indicators featured in the National Roadmap. Anap's staff coordinates internally and externally with all stakeholders monthly.

Results

Anap's mission is to empower the actors of the healthcare sector and help them implement a SD roadmap.

1. 'Field' support system enabling Anap sustainability experts to counsel individual healthcare providers either:

(a) on their demand, and to help them draft a sustainability roadmap (818 accompanied to date) or

(b) on the request of a Regional Health Agency (ARS), to advise a healthcare provider with treasury issues on low-investment or savings-generating sustainability projects (>20 accompanied in 1 year)

2. Training of hospital leaders in the ecological transition: Anap trains the top three executives of the public hospital groups (GHT).

3. A network of experts: the Anap helps the CTEES share their experience and pool the resources with other sectors (local authorities, universities). The impact: -13% of the energy consumption where the CTEES are working and 54% of hospitals believe that the CTEES's work has led to financial savings.

4. Production of technical support and guidelines and a platform dedicated to sharing national and international best practices as well as one to centralise all subsidies available.

5. A free online self-diagnosis tool that measures the level of maturity of the SD policy of a healthcare provider, and its margins for improvement.

Conclusion

We evaluated the development of sustainability strategies in French health and social care providers in a 2024 campaign. We had 519 respondents, 60% of whom were healthcare providers:

- Governance: 44% of structures have appointed one or more professionals as part-time referents on the topic of sustainability.
- Energy: 42% of respondents have undertaken actions to improve their energy consumption.
- Mobility: an issue that is still very little considered, 17% have set up an employer mobility plan.
- Waste reduction and recovery:
 - 55% of providers gave goals
 - No leverage effect of the EGALIM law for food waste: 41%* have a policy to reduce food waste
- Greenhouse gases – to be accelerated: 36% have assessed their greenhouse gas emissions.

Conflicts of interest related to this abstract: None

P-3019

Energy rehabilitation of an iconic building and a powerful message to citizens in our commitment to climate change

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Introduction

Energy consumption has emerged as a significant contributor to our carbon footprint, underscoring the importance of prioritizing climate action strategies within our organization. In line with this commitment, during the first semester of 2024

MútuaTerrassa embarks on a project aimed at enhancing the energy efficiency of one of Terrassa's most iconic buildings, the MútuaTerrassa University Hospital. This initiative not only seeks to optimize the energy performance of the facility but also takes a bold step forward by integrating renewable energy solutions. As part of the refurbishment project, three out of the four façades of the building will be outfitted with photovoltaic panels. This innovative approach will not only contribute to reducing the hospital's reliance on conventional energy sources but also harnesses the power of solar energy to generate electricity onsite.

Aim/Objective(s)

MútuaTerrassa, as a healthcare entity, recognizes the paradox of contributing to negative climate impacts while promoting public health. Consequently, we strive to enhance our decarbonization efforts through innovative projects. The rehabilitation of the Tower building at Mútua University Hospital aims to reduce emissions from hospital activities by improving energy efficiency and generating renewable electricity for self consumption. Additionally, it serves as a catalyst for collective climate action awareness.

Methods

The Tower building, housing the hospital services of the entity was inaugurated in 1975 and exhibits significant energy consumption primarily attributed to its very old electrical and conditioning systems, totaling approximately 500 kWh/m² per year. The energy rehabilitation project for the Tower building comprises two independent actions. Firstly, enhancing the insulation conditions of the building's facades of the building involves three phases (1) dismantling of the current facade roofing, (installing thermal insulation and (applying a final facade coating. Secondly, upon completion of the facade refurbishment, photovoltaic panels will be installed on three out of four facades. This installation will incorporate a total of 1,190 photovoltaic panels. The facade covering with photovoltaic panels will span an area of 2,833.66m² of the building.

Results

Until 2023, MútuaTerrassa's electricity supply comprised the standard electric mix. However, starting in 2025, 100% of MútuaTerrassa's electricity consumption is certified as renewable, significantly reducing greenhouse gas emissions. In the first half of 2024 rehabilitation and construction work began on the facade of the MútuaTerrassa University Hospital's Tower building. Upon completion, these efforts are projected to result in a thermal energy saving equivalent to approximately 30% of total consumption and an electric self supply of 281.694 kWh/year. The Tower building is a prominent feature in the Terrassa city skyline. Its rejuvenated appearance symbolizes MútuaTerrassa's dedication to combating the current climate crisis, sending a powerful message to our citizens and inspiring and encouraging them to actively participate in this transformative journey.

Conclusion

The health sector plays a pivotal role in addressing the health impact stemming from environmental degradation and worsening climate change. However, it is also one of the sectors with significant greenhouse gas emissions, especially due to its high energy consumption and plastic use.

As guardians of public health, health organizations must lead the ecological transition and combat climate change. We have a responsibility to raise awareness and inspire collective action among patients and citizens to mitigate the effects of these challenges.

Conflicts of interest related to this abstract: None

P-3020

Enhancing Sustainability and ESG Awareness: Transforming Corporate Culture in Indonesia Healthcare Corporation (IHC)

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Introduction

Indonesia's healthcare sector facing growing demands to population growth, evolving diseases, and sustainability concerns. IHC integrates Environmental, Social, and Governance (ESG) principles by reducing carbon emissions, optimizing resource use, and strengthening OHIH programs. IHC is committed to building a resilient, future-ready healthcare system that support national and global sustainability efforts.

Aim/Objective(s)

This study aims to evaluate the level of awareness and implementation of ESG principles across hospitals under IHC from 2024 to Q1 – 2025. It seeks to identify key factors influencing ESG adoption and assess the impact of corporate policies on cultural transformation within healthcare institution.

Methods

A mixed-methods approach was employed, combining qualitative and quantitative data collection. Surveys and interviews were conducted with hospital administrators, healthcare professionals, and key stakeholders to assess their understanding, engagement, and challenges in ESG implementation. Additionally, policy reviews and institutional ESG reports were analyzed to evaluate existing sustainability initiatives and their alignment with corporate and global sustainability goals.

Results

The study reveals that while ESG awareness is generally high among IHC healthcare units, there is considerable variation in implementation levels. Key challenges include limited financial resources, lack of standardized ESG guidelines, and varying levels of leadership commitment.

Conclusion

Strategic leadership, professional engagement, and structured policies are critical in driving ESG adoption in healthcare institutions. This study highlights the necessity of developing a comprehensive ESG Roadmap that provides clear guidance, measurable objectives, and policy integration to enhance sustainability efforts within the healthcare sector. Strengthening ESG initiatives through education, continuous monitoring, and strategic alignment with global sustainability goals is imperative for fostering climate resilience and ensuring a more responsible healthcare system.

Conflicts of interest related to this abstract: None

3021

Environmental compliance assessment of the Ebserh Network Hospitals

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Introduction

The environmental performance of companies is part of society's interests, concerned about the environment and sustainable development. This requires from organizations to not only

structure systems for managing environmental issues but also to continuously improve the execution of these activities.

For this purpose, it is necessary for the various economic sectors, including the hospital sector, to translate production cycles into indicators that allow the evaluation and guarantee of improvements in the activities' environmental performance. Regarding to this, Ebserh carried out an environmental compliance diagnosis among the Federal University Hospitals, part of its network, where is assessed environmental compliance, considered current regulations and legislation, through the Hospital Environmental Compliance Percentage Indicator (HECP), that translated its different activities into a single indicator. With the diagnosis, it was possible to outline a course of action to correct deviations and to seek continuous improvement in the Environmental Management System of the Ebserh.

Aim/Objective(s)

This work aims to determine the level of compliance of Ebserh Hospitals with the environmental requirements, identifying critical points and priority actions for compliance and continuous improvement of the Ebserh Environmental Management System.

So it was necessary:

- To identify the characteristics in the structure of Federal University Hospitals that generate elements of interaction with the environment; and
- To assess the measures adopted by Federal University Hospitals to control environmental aspects aiming to reduce or eliminate negative environmental impacts.

Methods

The diagnosis consisted of implementing a compliance questionnaire whose questions cover the requirements of the environmental management system, composed both by legal requirements, based on applicable legislation, and voluntary requirements, reinforced through Ebserh's Environmental Policy. The questionnaire, applied through forms.office.com, was divided into eight sections, all of them related to the different aspects identified in hospital activities, ranging from: (i) administrative aspects; (ii) prevention and safety aspects; (iii) technical aspects; (iv) water management; (v) sewage and effluent management; (vi) health service wastes; (vii) greenhouse gas emissions; and (viii) environmental certification. For each question, the responses "Compliant", "Not Compliant" and "Not Applicable" were accepted, which were related to the execution and proof of execution of the investigated activities.

The HECP was obtained by the application of the Equation (1)

$$\text{HECP} = [C / (C + NC)] * 100$$

Where:

- C is the number of "compliant" responses; and
- NC is the number of "non-compliant" responses.

Results

43 of 45 hospitals responded to the environmental compliance questionnaire, making a total of 95.5% of the respondents and, based on Equation (1), the Ebserh HECP indicator was calculated at 65.9%. From the study, It was possible to verify that Ebserh hospitals perform better in meeting legal requirements than in meeting voluntary requirements. This data shows that there is still a need to improve the effectiveness of the implementation of the Ebserh's Environmental Policy, since voluntary requirements are presented in the set of behaviors sought by this policy. The best result is related to the management of health service waste, in which the compliance rate achieved was 72.8%. This aspect also presents greater adherence to the mandatory practices than the voluntary ones, such as the destination of recyclable waste to waste collection associations and the adoption of waste composting. The worst performance occurred with the voluntary requirements, which assessed the

implementation of the greenhouse gas footprint, reaching a performance of 4.8%. This number shows that only three hospitals, among the 43 evaluated, carry out GHG inventories.

Conclusion

The application of the environmental compliance questionnaire made it possible to translate the environmental compliance of the Ebserh Network hospital activities through the Hospital Environmental Compliance Percentage (HECP) indicator. The achieved result revealed critical points in the execution of the environmental management system, as well as verifying the best practices that can be disseminated throughout the network by Ebserh Central Administration. Translating compliance into an indicator will enable environmental performance to be broken into targets, which will be addressed through specific action plans. This makes it possible not only to assess compliance, but also to ensure continuous improvement in environmental performance in the execution of the Ebserh's activities. With centralized efforts, it will be possible to guarantee the sustainability of the activities carried out by the hospitals that are part of the Ebserh network, as well as guarantee the same level of execution by all hospitals in the long term.

Conflicts of interest related to this abstract: None

P-3022

Establishing a holist approach to combating antibiotic resistance: a study protocol

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Introduction

WHO, United Nations Food and Agriculture Organization, and The World Organisation for Animal Health have made a great effort to battle the issue of AR. Recently, these organizations have made an approach called 'One Health' which aims to control this global issue. The fundamental core of this initiative is to come up with promisingly positive outcomes on human, agriculture, animals, and environment. WHO has reported that the usage of antibiotics in livestock was roughly 70%, which emphasizes the potential effect on the patterns of AR. Although there are positive benefits in using bacteria in the treatment of soils, there is negative impact on the development of the AR. Resistant bacteria has been reported in rivers, pointing out such resistant bacteria can be risky to aquatic life and users of recreational water. Therefore, there is interconnection between AR and different environments, which highlights the potential risks to human health.

Aim/Objective(s)

Main:

This study will explore the inter-linkage between healthcare settings and community in the context of AR, and implement a holistic approach to combat AR.

Specific: Phase I

1. To assess the level of KAP of animal raisers, animal sellers, veterinarians, and animal healthcare givers toward uses of antibiotics in the animal foods and AR in KSA.
2. To assess the association between sociodemographic factors and level of KAP towards toward uses of antibiotics in the animal foods and AR in KSA.

Phase II: To identify the prevalence of AR bacteria species in water, agricultural crops, animal products, and healthcare settings simultaneously.

Phase III: To explore experience of commissioners from different fields (health sector and MOAWE) toward interlinkage between AR bacteria in these fields, contribution, and how to combat.

Phase IV: To develop a holistic framework based on the finding of the first three phases to combat AR.

Methods

A mixed method design:

Phase I: Across-sectional study using a validated questionnaire will be carried out to assess the KAP of animal raisers, animal sellers, veterinarians, and animal healthcare givers toward uses of antibiotics in the animal foods and AR. Logistic regression analysis will be used to identify sociodemographic factors associated KAP.

Phase II: Various samples from community and hospitals will be collected and cultured. In addition, antibiotic susceptibility testing will be performed. Chi-squared (χ^2) test will be used to compare the data.

Phase III: A semi-structure interview guide will be developed based on findings from the first two phases and literature review. Focus group discussions with commissioners from both sectors will be carried out. Qualitative analysis will be used to identify themes and insights.

Phase IV Based on the first three phases, a holistic framework will be adapted and provided to policy makers.

Results

Phase I: KAP levels regarding antibiotic use and AR among animal-related professionals could be less than expected, and sociodemographic factors influencing these levels will be identified.

Phase II: Prevalence of AR bacteria species from animal products, agricultural produce, and water sources could represent similar resistant species to the isolated ones from the hospitals.

Phase III: Qualitative insights from commissioners on the interlinkage of AR bacteria across sectors, revealing contributing factors and potential intervention strategies.

Phase IV: A holistic framework for combating AR will be developed, based on the findings of the previous phases, will be ready for policy implementation.

Conclusion

This study proposes an inclusive protocol to assess the interlinkage between healthcare settings and the community in the context of AR. Through findings that will be obtained from this mixed-methods approach and involving collaborative efforts of stakeholders from MOH and MOAWE, this study will deeply uncover and highlight the underlying factors in both sectors contributing to AR. Thus, it will provide promising outcomes promoting evidence-based practices and lead to effective and sustainable approach to combat or at least mitigate one of the top ten public health issues.

Conflicts of interest related to this abstract: None

P-3023

Establishing a resilient, inclusive, and sustainable healthcare institution.

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Introduction

In today's fast-changing world, sustainability and digital transformation have become key factors for success across industries. In healthcare, hospital administrators face the challenge of staying ahead in a highly competitive environment by analyzing external changes and adopting management strategies to enhance hospital value. Additionally, rapid global aging has increased healthcare demand while shrinking the working-age population. Challenges such as healthcare system reforms, workforce shortages, and work-life balance concerns further complicate the industry. To address these challenges, hospitals must adopt quality management strategies, promote digital transformation, and create a sustainable and inclusive environment. ESG is now a critical indicator of corporate sustainability and is increasingly incorporated into hospital evaluations. Hospital embraces sustainability through digital transformation. As the first hospital in southern Taiwan to establish an ESG Action Office, KMSH integrates lean management, smart systems, and green initiatives to improve medical quality, enhance employee well-being, and fulfill social responsibilities.

Aim/Objective(s)

Promotes sustainability with the following objectives:

Align with government policies and achieve sustainability goals:

- Commit to Taiwan's 2050 net-zero emissions strategy.
- Set ESG short-, medium-, and long-term goals for green medical transformation.

Build a climate-smart healthcare system:

- Enhance climate resilience and risk management.
- Develop a low-carbon medical framework to achieve global health targets.

Promote low-carbon healthcare models:

- Assess energy use, waste management, and electronic medical records to set improvement targets.
- Reduce waste and raise public awareness of carbon reduction.

Smart energy saving to build a medical environmental control, energy saving and carbon reduction practice base. Features: Leading the supply chain to implement green supply chain through circular economy.

Implement patient-centered holistic care:

- Provide community screenings, health education, and school health programs.
- Ensure accessible healthcare for disadvantaged groups.

Enhance service value through digital transformation:

- Establish a smart hospital with improved clinical workflows.
- Utilize AI for remote healthcare access, promoting health equity.

Methods

KMSH integrates internal resources and collaborates with external stakeholders, adopting the following methods:

- Stakeholder engagement: Communicate with government agencies, medical partners, employees, patients, suppliers, and the public.
- Literature review & trend analysis: Monitor external changes and market trends for informed decision-making.
- Data collection & analysis: Conduct greenhouse gas (GHG) audits to identify emission sources and optimize energy management.
- Medical waste reduction: Analyze waste generation to implement reduction strategies.
- Big data analytics: Identify community health issues and propose policy recommendations.
- Project implementation: Establish a sustainability team led by the hospital director.
- Lean management adoption: Improve workflows and efficiency while minimizing waste.
- Social return on investment (SROI) evaluation: Quantify social impact.
- Technological innovation: Develop AI-powered X-ray analysis and smart energy monitoring.
- Education & advocacy: Organize ESG training, community health seminars, and school programs.

Participants include hospital staff, community members, patients, government agencies, academia, and businesses, with sampling methods varying by project.

Results

Kaohsiung Municipal Siaogang Hospital has achieved concrete results in promoting sustainable development: Greenhouse Gas Reduction: 18.7% reduction in carbon emissions in 2022 compared to 2020.

1. Waste Reduction: (1) Approximately 2 tons of dialysis materials are recycled monthly, reusing single-use blood dialysis tubes. (2) In 2023, 19.5 tons of medical waste were recycled, including plastic particles remade into eco-friendly cleaning bags.
2. Green Procurement: From 2021 to 2023, **green procurement amounted to NT\$24.99 million**.
3. Solar green electricity : Install 200 solar panels estimated to be 97,455 kWh/year, replacing 1.2% of the hospital's electricity consumption (estimated based on total electricity consumption in 2022)
4. Green electricity device for elevator operation.
5. Employee Commuting Carbon Reduction: Subsidies for employees using low-carbon transport.
6. Service Optimization: (1) Eliminating seven types of waste through lean management. (2) Saving medical staff 2999.78 labor days/5 years, NT\$4.566 million/5 years; saving public waiting time 31777.5 labor days/4 years, NT\$37.433 million/5 years.
7. Social Impact: I Care community visits served 150 elders, totaling 414 hours and NT\$1,277,259 invested.

These results were achieved through GHG audits, lean management, and smart technology adoption. By integrating sustainability initiatives, KMSH has enhanced service efficiency, environmental responsibility, and community engagement.

Conclusion

KMSH's sustainability initiatives align with global trends while delivering tangible benefits to healthcare operations.

- Enhanced medical service quality: Process optimization, digital systems, and AI applications reduced wait times and medical errors while improving efficiency.
- Improved employee well-being: Work-life balance programs and professional development opportunities increased job satisfaction and retention.
- Fulfilled social responsibility: Community outreach, patient support programs, and environmental initiatives strengthened public trust.

- Reduced operational costs: Energy-saving measures, waste reduction, and green procurement improved cost efficiency.
- Innovative contributions:
 - Policy: Advocated for elementary school air pollution curriculum and government environmental policies.
 - Practice: Pioneered urban Indigenous healthcare models and fast-track rehabilitation transport services.
 - Research: Published environmental health studies advancing academic contributions.

By leveraging digital transformation to implement ESG principles, KMSH has strengthened its competitiveness while benefiting patients, employees, and the broader community. These experiences serve as a reference for other healthcare institutions, contributing to a more sustainable and health-conscious future.

Conflicts of interest related to this abstract: None

P-3024

Greener Care: Enhancing Hospital Resilience and Sustainability on a Budget

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Dawadmi General Hospital, Saudi Arabia

Introduction

In an era marked by climate change and resource scarcity, hospitals face unprecedented challenges in delivering quality care while minimizing their ecological footprint. The healthcare sector is a significant contributor to carbon emissions, necessitating urgent action towards sustainability. This is particularly pressing for hospitals operating on limited budgets, where financial constraints can hinder the adoption of green practices. Our healthcare system recognizes the critical need to balance cost-efficiency with environmental responsibility. By exploring innovative strategies and leveraging existing resources, we aim to enhance hospital resilience and sustainability without compromising patient care. This initiative focuses on integrating low-carbon solutions into everyday operations, fostering a culture of environmental stewardship while ensuring that healthcare remains accessible and effective for all. Through collaboration and creativity, we can pave the way for a greener future in healthcare, demonstrating that sustainability is not just a goal but an achievable reality, even in resource-challenged settings.

Aim/Objective(s)

The primary aim of "Greener Care: Enhancing Hospital Resilience and Sustainability on a Budget" is to identify and implement cost-effective strategies that promote environmental sustainability within healthcare settings. Specific objectives include:

1. Assessing Current Practices: Evaluate existing operational practices in our hospital to identify areas for improvement regarding resource use and carbon emissions.
2. Innovative Solutions: Develop and implement sustainable initiatives, such as energy-efficient technologies, waste reduction programs, and alternative procurement strategies that align with budget constraints.
3. Staff Engagement and Training: Foster a culture of sustainability by engaging healthcare staff in training programs that raise awareness and encourage participation in green initiatives.
4. Monitoring and Evaluation: Establish metrics to measure the impact of implemented strategies on both environmental performance and operational costs, ensuring continuous improvement and scalability.

Through these objectives, we aim to create a resilient, low-carbon healthcare environment that prioritizes patient care while supporting ecological sustainability.

Methods

To achieve the objectives of "Greener Care," a mixed-methods approach will be employed. Participants will include healthcare staff from various departments within the hospital, selected through purposive sampling to ensure diverse representation. Data collection will involve both quantitative and qualitative methods. Surveys will be administered to assess current practices, attitudes, and awareness of sustainability among staff. Simultaneously, focus groups will be conducted to gather in-depth insights on barriers and opportunities related to sustainable practices. Tools such as structured questionnaires and audio recordings will facilitate data gathering. The survey data will be analyzed using statistical software to identify trends and quantify impacts, while thematic analysis will be applied to qualitative data from focus group discussions to extract key themes and recommendations. This comprehensive methodology will provide a holistic understanding of our hospital's sustainability practices, guiding the development of practical, budget-friendly solutions to enhance resilience and eco-friendliness.

Results

The "Greener Care" initiative yielded significant results, demonstrating that sustainability in hospitals can be achieved even with limited resources. Following the implementation of identified low-carbon strategies, our hospital observed a 20% reduction in energy consumption within the first year, primarily due to the adoption of energy-efficient lighting and HVAC systems. Surveys indicated that staff awareness of sustainability practices increased by 35%, reflecting enhanced engagement and commitment to environmental stewardship. Focus group discussions highlighted successful initiatives, such as waste reduction programs that led to a 25% decrease in non-recyclable waste, reinforcing the potential for behavioral change. Furthermore, the financial analysis revealed a 15% reduction in operational costs, validating the cost-effectiveness of green practices. Participants reported increased satisfaction, noting a sense of pride in contributing to a healthier environment for patients and the community. Overall, this initiative not only strengthened our hospital's resilience against environmental challenges but also fostered a culture of sustainability, setting a precedent for future efforts in the healthcare sector to integrate ecological responsibility into everyday operations.

Conclusion

In conclusion, the "Greener Care" initiative has successfully demonstrated that hospitals can prioritize sustainability while operating within financial constraints. By implementing cost-effective, low-carbon strategies, our hospital achieved notable reductions in energy consumption and waste, resulting in lower operational costs and a more environmentally friendly service. The increase in staff awareness and engagement underscores the importance of fostering a culture of sustainability within healthcare settings. These positive outcomes not only enhance our resilience against environmental challenges but also contribute to improved patient care and community health. Moving forward, our experience serves as a valuable model for other healthcare facilities seeking to adopt sustainable practices. By continuing to innovate and collaborate, we can build a greener future in healthcare, ensuring that ecological responsibility and high-quality care go hand in hand. The commitment to sustainability is not just a strategic goal, but a vital necessity for promoting a healthier planet and society.

Conflicts of interest related to this abstract: None

P-3025

Health and climate project in Catalonia: A collaborative approach to sustainable healthcare

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Introduction

Healthcare systems worldwide are increasingly recognizing the dual challenge of delivering high-quality care while reducing their environmental impact. The Health and Climate Project in Catalonia, led by La Unió, seeks to bridge this gap by integrating sustainability into healthcare governance, operations, and clinical practice. Through a strategic partnership with the Centre for Sustainability of Geneva, this project has empowered healthcare institutions to adopt sustainability-driven methodologies and implement actionable solutions. The initiative provides guidance, training, and practical tools to support healthcare organizations in reducing their environmental footprint, aligning with global climate commitments, and fostering a more resilient health system.

Aim/Objective(s)

- Establish a structured framework for sustainability in healthcare and social services.
- Monitor and assess environmental indicators, such as carbon footprint, waste management, and energy consumption.
- Facilitate knowledge-sharing and training to promote best practices.
- Collaborate with the Centre for Sustainability of Geneva and European partners to develop and implement innovative sustainability tools.
- Advocate for policy changes and collaborative actions to reduce healthcare's environmental impact.

Methods

The project is structured around a steering group composed of representatives from healthcare organizations within La Unió. It follows a structured action-oriented approach based on:

- International frameworks, including WHO, Healthcare Without Harm, and CDC guidelines.
- 12 sustainability dimensions, adapted from the National Health Service (NHS) model.
- The Health and Climate Manifesto, which serves as a roadmap for sustainability efforts, covering assessment, training, research, innovation, and best practice dissemination.
- Five key action areas, ensuring practical, measurable, and scalable impact.
- Collaboration with the Centre for Sustainability of Geneva, providing Catalan hospitals access to sustainability tools and methodologies.

Results

- Environmental data collection: A comprehensive survey gathered data from 2022–2023 on carbon footprint, recycling, waste management, and water/electricity consumption across Catalan healthcare and social facilities.
- Best practice identification: Mapping of sustainability initiatives and successful interventions across different healthcare providers.
- Implementation tools:
 - Guide to water and carbon footprint management, which identified effective strategies and formulated practical recommendations.
 - Sustainability progress framework that allows healthcare organizations to assess their current status

and identify opportunities for improvement. This framework includes key performance indicators (KPIs) that help institutions track their sustainability journey, benchmark their progress, and implement targeted actions to enhance their environmental and organizational impact.

- Collaboration with the Centre for Sustainability of Geneva, where hospitals piloted the SAT, assessing sustainability performance and implementing targeted improvements.
- Promotion of the Lab CEL with discussion with healthcare professionals to use the tool.
- Webinar series and knowledge-sharing sessions involving more than 50 sustainability leaders from healthcare centers across Catalonia
- European collaboration:
 - Active participation in the DesHealth Project, mapping best practices in environmental sustainability across Catalan hospitals and assessing emerging competency needs for future training and professional development.

Conclusion

This project has successfully embedded sustainability into healthcare governance by leveraging international expertise, innovative tools, and strong institutional partnerships. The collaboration with the Centre for Sustainability of Geneva has enhanced local capacity, providing hospitals with structured methodologies to assess, improve, and monitor their sustainability performance. By fostering a culture of shared responsibility, the project has demonstrated that health and climate policies can be integrated into daily healthcare operations without compromising service quality. Moving forward, La Unió aims to scale these efforts, reinforcing sustainability as a core pillar of healthcare planning and implementation. Our ultimate goal is to contribute to a resilient, low-carbon, and patient-centered healthcare system that safeguards both human health and the environment for future generations.

Conflicts of interest related to this abstract: none

P-3026

Impact analysis of greenhouse gas emission in transporting and distributing blood to hospital network in the Philippines: A Case Study

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Introduction

Blood supply chain management requires complex interlinked processes from collection of blood, production of blood components, distribution to hospitals, and disposal. Transporting and distributing blood is the major contributor to greenhouse gas (GHG) emissions, which has a direct impact on global warming and climate change. Disasters – natural and man-made that are attributable to climate change can directly affect blood supply chain management in terms of blood supply. Mobile blood collection as well as transportation and distribution of blood products are hampered in case of typhoons and floods as the road may be impassable. In the Philippines which experiences more than 20 typhoons annually that cause floods, mobile blood donation activities, and transportation and distribution of blood become challenging. Moreover, with a lack of an efficient courier/delivery system and a lack of dedicated transport vehicle for blood distribution, blood is mostly transported faster by patient folks.

Aim/Objective(s)

This case study aims to analyze the impact of a weekly blood transportation and distribution system in terms of greenhouse gas emissions. Our objectives are:

1. To estimate the greenhouse gas emissions of transporting blood to hospitals weekly and by individually transported by patients' folks; and,
2. To determine any significant difference in terms of greenhouse gas emissions between the weekly direct blood system and by individually transported by patient.

Methods

A review was done of the records on the number of weekly blood distribution system, and the number of blood units distributed to our hospital network. The distance by road from each hospital to SOCCSKSARGEN Regional Blood Center located in Cotabato City was measured using Google.com and a round-trip travel was computed. The greenhouse gas emissions were calculated using the UNFCCC (United Nations Framework Convention on Climate Change) Greenhouse Gas Emissions Calculator ver02.6 (2021 Emissions Factor) which can be accessed at this link: <https://unfccc.int/documents/271269>. We used the category for the transport vehicle as delivery van Class I (up to 1.305 tonnes) using a diesel-powered engine. This computation belongs to the Scope 1 Greenhouse Gas Emissions category which is the direct emissions from vehicles that transport blood wherein we have control.

The significant difference was computed using a paired t-Test with 95% confidence interval.

Results

We have reviewed the 2022-2024 records of direct blood distribution from 30 hospitals belonging to our Zonal Blood Services Network of hospitals within a 155 km radius from our blood center with approximately up to 4 hours of land travel one-way. There were 1,280 trips, 856 trips, and 1,112 trips that were made for direct blood distribution and transport with a total distance of 106,461 km, 13,717 km, and 16,147 km in 2022, 2023, and 2024, respectively. The estimated greenhouse gas emissions for the trips were 15,617.8 kg CO₂e, 8,450.1 kg CO₂e, and 15,994.3 kg CO₂e, respectively. The total number of blood units distributed weekly was 15,459 blood units, 13,717 blood units, and 16,147 blood units in 2022, 2023, and 2024, respectively. The computed estimated greenhouse gas emissions if these blood units were individually transported by patient folks were 290,115.1 kg CO₂e, 221,356.4 kg CO₂e, and 314,130.1 kg CO₂e, respectively. The greenhouse gas emissions for weekly direct blood distribution and transportation in 2022, 2023, and 2024 are much lower than individually transporting blood by 94.7%, 96.6%, and 94.9% with a p-value of 0.006, 0.02, and 0.005, respectively.

Conclusion

Weekly direct blood distribution and transportation systems show much lower Greenhouse Gas Emissions when using a diesel-powered Class I type delivery van (up to 1.305 tonne). Direct blood distribution weekly is an effective and efficient way of reducing greenhouse gas emissions. By reducing the greenhouse gas emissions from the transportation of blood to different hospitals, we can lessen the contribution to the effect on climate change. With less change in climate weather patterns and events, there will be lesser typhoons and floods; therefore, mobile blood drives and direct blood distribution system will be less impacted.

Conflicts of interest related to this abstract: None

P-3027

Implementing a Strategic Communications Plan to Increase Engagement with Environmental Initiatives and Improve Sustainability Outcomes

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Introduction

The Canadian healthcare system contributes approximately 4.6% of Canada's total greenhouse gas emissions. At Ontario Shores we recognize the impact we have on the environment. Through focus groups and discussions with the executive team, staff also shared their eagerness for the organization to prioritize environmental sustainability in its operations. In response, Ontario Shores developed an ambitious environmental sustainability plan that focused on waste diversion, energy and water conservation, and enhancements to our natural environment. To achieve the goals within each of these areas, a comprehensive communications plan was developed to raise awareness about these activities, encourage participation, and celebrate successes. Environmental sustainability has been building momentum in the healthcare sector, creating opportunities for Ontario Shores to align its plans with global standards and generate awareness about the work taking place at the Hospital.

Aim/Objective(s)

- Increase waste diversion rate to 67% by end of December 2024.
- Receive a minimum of 65% on 3 indicators of environmental sustainability on our Leadership Accreditation preparedness survey.
- A minimum of 10% of staff participate in the Waste Reduction Week inter-hospital Challenge (a friendly competition with many of our healthcare partners)
- Develop and implement our Energy Conservation and Demand Management Plan.
- Plant a minimum of 140 new trees on hospital property to replenish trees that have been lost or damaged.
- Increase opportunities for green knowledge sharing with staff engagement initiatives. Identify a minimum of four opportunities to involve staff and include a minimum of 60% of staff in at least one opportunity in 2024.
- Identify at least one staff or leadership driven initiative to help with environmental sustainability that is department or area specific.

Methods

An overarching internal Communications Plan was developed. The plan optimized all communications platforms and marketing tactics to connect and engage with staff, our primary audience. To achieve the goals outlined in the plan, we utilized the Ontario Shores Green Team. Events: Hosted 8 events including Earth Month events, a tree planting, and fall harvest celebration to bring staff and patients together for a shared purpose of beautifying the natural elements of our grounds. Awareness and Education: We used traditional communications strategies to show how staff can support waste and energy reduction measures. Connection to Employee Wellness: Our research showed that employee wellbeing was important to our staff. To change behaviour, Ontario Shores provided staff with a reusable water bottle and food containers and installed more water fill stations

Results

The purpose of the campaign was to increase our waste diversion rate, decrease our energy consumption, and engage staff

(at all levels) in environmental initiatives and learning opportunities. The data shows that we were successful in our efforts:

- Waste diversion rates steadily increased throughout 2024, reaching 70% on December 70%
- Received a minimum of 65% on 3 indicators of environmental sustainability on our Leadership Accreditation preparedness survey:
- 12.2% of staff participated in the Waste Reduction Week inter-hospital challenge,
- We received a 5% energy reduction (GHC 5% Club Award), Ontario Shores has reduced energy consumption by 28.9% and water consumption by 24.5% in the last five years, saving \$234k and 1061 tonnes of Greenhouse Gas, equivalent to taking 253 gas powered vehicles off the road.
- We planted 346 trees on hospital property in 2024, one for each inpatient bed.
- In 2024, we identified 5 new opportunities for staff to participate in engagement activities with a total of 375 participants
- All inpatient units participating in the month-long waste diversion challenge
- 60% of staff participated in the lighting challenge
- A minimum of 80% of staff participated in at least one activity.

See supplemental material provided for additional results.

Conclusion

Through a strong partnership between the hospital's Facilities team and the Communications team, the hospital experienced a significant improvement in reaching its environmental targets. With greater staff and patient participation, we were able to achieve our ambitious waste diversion rates and education consumption rates. This has sparked a new Environmental Sustainability policy to ensure the organization continues to prioritize this work. As we continue to share our efforts within our hospital, more departments such as Pharmacy and Purchasing are becoming involved, identifying opportunities for them to embrace these principles and support these goals. In addition to our internal engagement, by leveraging our social media platforms to showcase our efforts and work in this area, we developed new community partnerships who share our commitment for environmental sustainability. Ontario Shores has leveraged global standards to ensure its plans align with best practices and will have the desired impact.

Conflicts of interest related to this abstract: None

P-3028

Implementing an Integrated Multidisciplinary Telehealth Platform: A Case Study of Innovation at Taichung Veterans General Hospital

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Introduction

Telemedicine has seen widespread use and continued demand since the COVID-19 pandemic. For aging societies, especially in rural areas, developing an integrated platform offering multidisciplinary acute and chronic care can enhance healthcare networks, streamline services, and effectively address the challenges of these populations. As Taiwan's population ages and chronic health conditions become more prevalent, the healthcare system faces increased demand for accessible, high-quality medical services. Addressing these challenges, particularly for those in rural and underserved regions, requires

a reimagined approach to healthcare delivery. The Multidisciplinary Telehealth Center at Taichung Veterans General Hospital, established in 2022, serves as a key initiative in Taiwan's telemedicine landscape, aiming to bring comprehensive, continuous, and specialized care to a broad population.

Aim/Objective(s)

This study presents the design, operation, and outcomes of implementing an integrated Telehealth platform in a single hospital within a Taiwanese network. It combines remote monitoring, real-time data analytics, and cross-institutional collaboration to improve healthcare accessibility, emergency response, and chronic disease management.

Methods

The Telehealth Center integrates TFDA-certified IoT devices, AI-assisted diagnostics, and wearable monitors for real-time care. Services are delivered via QOCA® platforms and AVer MD330 U® camera, supported by 5G connectivity. ISO 27001-certified systems ensure secure, encrypted data transmission and storage. Collaborative networks with regional facilities enhance care. AI algorithms enable early detection of critical conditions, supporting timely interventions through real-time monitoring and teleconsultation. We evaluated the integrated telemedicine platform's effect by analyzing data from partnering healthcare institutions within the network from 2022. Key outcomes included the number of collaborating institutions, patients receiving telemedicine services such as vital sign monitoring and tele-consultations, and the reduction in unnecessary referrals from rural areas. Other key outcomes included the proportion of stroke patients receiving timely treatment within the golden hour, increases in subspecialty telemedicine services for rural areas, and satisfaction levels among healthcare providers and patients were also analyzed.

Results

Since 2022, our telehealth platform has facilitated networking with 26 institutions with over 300 annual teleconsultations from regional hospitals and rural health centers across central and south-central Taiwan. Teleconsultations from primary veterans homes rose significantly, reducing non-emergent transfer rates from 30% in 2022 to 10% in 2023. Emergency teleconsultations for stroke ensured timely treatment, and 83% of patients received thrombolytic therapy within golden time. Advanced telemedicine enabled complex surgeries at rural hospitals using 5G technology and real-time data sharing and managed six refractory arrhythmia cases with positive outcomes. Real-time remote ECG monitoring, introduced in January 2023, supports 454 ambulance transfers, ensuring efficient emergency coordination through AI alerts and location tracking. At-home real-time ECG monitoring for cryptogenic stroke patients has identified atrial fibrillation in 16% of cases in an average of 8.9 days, and an additional 9% identified after 14 days, preventing stroke recurrences. Surveys from 276 respondents revealed an 83.9% satisfaction rate among healthcare professionals and 100% among patients, highlighting the system's impact on patient safety, emergency efficiency, and chronic care. The telehealth platform integrates key strategies like fast tracks and safe transfers to optimize regional collaboration, enhance surgical precision, and provide timely interventions.

Conclusion

The Telehealth Center at Taichung Veterans General Hospital illustrates the transformative potential of integrating telemedicine with advanced technology. Through its combination of AI, 5G, and a multidisciplinary approach, the center has enhanced patient accessibility, improved emergency response times, and set a new standard for telemedicine in chronic disease management and preventive care. The Telehealth Center model offers a scalable and replicable approach for global healthcare

systems, demonstrating how telemedicine can meet the complex needs of an aging population while addressing healthcare access disparities. Continued expansion and technological refinement will enable the center to further improve healthcare outcomes, setting an exemplary model for future telehealth initiatives worldwide.

Conflicts of interest related to this abstract: None

P-3029

Implementing ESG Strategies Through Outpatient Service Effectiveness Indicators: taking a regional teaching hospital as an example

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Introduction

In recent years, global attention has focused on ESG (Environmental, Social, Governance) sustainable development. To implement and promote ESG, hospitals need to utilize resources more effectively to provide more medical services, and ESG has an important impact on ensuring the best use of resources.

Aim/Objective(s)

In order to practice ESG, our hospital explores the utilization benefits of outpatient clinics in various departments, thereby providing the hospital's administrative decision-making department with a reference for future allocation of medical resources.

Methods

1. Study Period and Setting: The study was conducted at a regional teaching hospital from August 2023 to May 2024.
2. Data Analysis: Analyze various indicators of outpatient clinics, including average revenue per visit, average number of patients per visit, utilization rate of clinic rooms in each department, and outpatient revenue per square meter.
3. Radar Chart Application: Compare the outpatient index data of each department with the average of the whole hospital, set the average of the whole hospital to 1, and calculate the corresponding score based on the outpatient index of each department. The scores corresponding to the outpatient benefit indicators of each department are presented in a radar chart, which can visually display and compare the outpatient benefits of different departments.

Results

1. Average Revenue per Visit: The Internal Medicine and Dermatology departments had the highest average revenue per visit, with relative scores of 1.64 and 1.65, respectively, compared to the hospital average.
2. Average Number of Patients per Visit: The Internal Medicine and Dermatology departments had the highest average number of patients per visit, with relative scores of 1.19 and 1.61, respectively, compared to the hospital average.
3. Utilization rate of clinic rooms: The Orthopedics and Urology departments had the highest clinic rooms utilization rates, with relative scores of 1.45 and 1.44, respectively, compared to the hospital average.
4. Revenue per Square Meter: The Internal Medicine and Dermatology departments had the highest revenue per square meter, with relative scores of 1.75 and 1.60, respectively, compared to the hospital average.
5. Comprehensive Evaluation: Based on the above indicators, departments were categorized into three levels:

(1) Outpatient Service Effectiveness Above Hospital Average (Relative Score >1): Dermatology, Internal Medicine, Urology, Orthopedics, Rehabilitation and Otolaryngology.

(2) Outpatient Service Effectiveness Near Hospital Average ($0.9 \leq$ Relative Score ≤ 1): Neurology, Obstetrics and Gynecology, Surgery.

(3) Outpatient Service Effectiveness Below Hospital Average (Relative Score <0.9): Psychiatry, Family Medicine, Ophthalmology, Pediatrics, Occupational Medicine.

Conclusion

For departments with low clinic room utilization rates, adjust the allocation of clinic resources to improve clinic utilization. For departments with high Drug expense ratio, measures to control drug expense should be implemented to optimize financial management efficiency. This study analyzed outpatient service effectiveness indicators across various departments. Based on the analysis results, recommendations for optimizing medical resource allocation and improving management efficiency were provided. It will help improve hospital outpatient performance in the spirit of ESG and provide a valuable reference for hospital management decision-making.

Conflicts of interest related to this abstract: None

P-3030

Implementing Packaging Waste Separation at Assuta Centers: A Pilot Success Story

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Introduction

Hospitals generate significant waste, including packaging that often ends up in landfills. As a leading healthcare provider, Assuta integrates ESG principles to reduce its environmental impact. In 2021, Assuta Rishon Lezion became the first hospital in Israel to pilot packaging waste recycling as part of a circular economy approach. The project introduced designated recycling bins and engaged staff in responsible waste separation. Assuta partnered with T.M.I.R. Manufacturers Recycling Corporation in Israel Ltd. ("Tamir"), a non-profit public-benefit corporation ensuring compliance with the Packaging Law (2011), and Yarok Hevrati, a social enterprise employing individuals with disabilities for waste separation and recycling. This initiative aimed to create a scalable recycling model for all Assuta centers, demonstrating that sustainability in healthcare is both feasible and beneficial. By promoting circular economy practices, Assuta reduces its environmental footprint while maintaining excellence in medical services and operational efficiency.

Aim/Objective(s)

The primary objective of this project was to implement a scalable packaging waste separation system across Assuta's hospitals, starting with a pilot at Assuta Rishon Lezion. The initiative aimed to reduce packaging waste sent to landfills by introducing dedicated recycling bins and establishing a structured collection process. Additionally, the project sought to raise awareness and encourage behavioral change among hospital staff, patients, and visitors by promoting responsible waste disposal. A key goal was to foster partnerships that support both environmental and social impact. Assuta collaborated with a recycling corporation and with a socio-economic organization, which manages waste separation as part of its operations. The long-term objective is to expand the initiative to all Assuta centers, ensuring consistent recycling practices. By embedding sustainability into daily hospital operations, the project aligns with Assuta's commitment to environmental responsibility and continuous improvement.

Methods

The pilot project was implemented through a structured approach. Dedicated recycling bins for packaging waste were placed in key hospital locations, and Assuta collaborated with Tamir and Yarok Hevrati to manage the collection and separation process. Educational materials, including an instructional video and management communications, were provided to staff. Employee engagement was reinforced through training sessions, on-site briefings, and environmental ambassadors from within the hospital staff. To encourage participation, inter-departmental recycling competitions were introduced. Once collected, the packaging waste is transported to Tamir's facilities, where it undergoes inspection to ensure proper separation. The waste is then weighed and enters the recycling process, where materials are sorted, processed, and repurposed. This ensures that packaging waste is effectively diverted from landfills and reintegrated into production, aligning with Assuta's commitment to environmental sustainability.

Results

Since its launch in 2021, the pilot project at Assuta Rishon Lezion has proven to be a success, making it the first hospital in Israel to implement packaging waste recycling. By the end of January 2025, approximately 31.7 tons of packaging waste had been collected. The initiative has continued with ongoing packaging waste separation efforts at Assuta Rishon Lezion, alongside the collection of bottles for deposit return. The project has also contributed to increased awareness and engagement among hospital staff regarding waste separation and sustainability practices.

Conclusion

The success of the pilot project at Assuta Rishon Lezion demonstrates that healthcare facilities can integrate effective recycling programs without disrupting medical operations. The initiative has significantly reduced packaging waste sent to landfills while fostering a culture of environmental responsibility among hospital staff and visitors. Additionally, the collaboration with Tamir corporation and Yarok Hevrati has contributed to both environmental and social impact, as the project supports employment opportunities for individuals with disabilities while ensuring proper waste separation and recycling. Following the pilot's success, Assuta has expanded packaging waste separation to all its medical centers and continues to enhance the initiative at Assuta Rishon Lezion, including the introduction of bottle collection for deposit return. By embedding sustainability into hospital operations, Assuta is setting a precedent for other healthcare institutions, demonstrating that environmental responsibility and high-quality healthcare services can go hand in hand.

Conflicts of interest related to this abstract: None

P-3031

Implementing Plant-Rich, Sustainable Hospital Menus: Insights from PAN's Healthy Hospital Food Project

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Introduction

Hospitals play a crucial role in promoting health, yet their food systems often hold immense potential to more beneficial nutrition regarding planetary health diet. Aligning hospital nutrition with WHO recommendations and national dietary guidelines offers a dual opportunity: improving patient health while reducing the carbon footprint of food services.

Aim/Objective(s)

This project presents a hospital-based intervention introducing sustainable, plant-forward menus that adheres to both health and environmental standards in four public hospitals implemented within one year. The 'Healthy Hospital Food' project, initiated by the Physicians Association for Nutrition (PAN), aimed to establish evidence-based, sustainable catering concepts in public hospitals. The pilot phase included four hospitals: the Lucerne Cantonal Hospitals in Switzerland, the Schwarzwald-Baar Clinic in Villingen-Schwenningen, the SLK Clinics in Heilbronn and the University Hospital in Ulm.

Methods

The focus was on analyzing existing menus and implementing plant-based menus, reducing CO₂ emissions and food waste and promoting a positive attitude towards healthy eating. Note that not all measures were evaluated in all hospitals, due to limited data availability. The scope of participation and implementation differed among the hospitals due to different baselines and local circumstances. Therefore, not all results can be proved in all participating hospitals. Core measures included the systematic analysis of existing menus, the development of adapted recipes for professional kitchen processes and the implementation of specialised training for kitchen and medical staff. This was accompanied by a communication strategy that addressed internal and external stakeholders. Challenges such as complex decision-making structures in hospitals and reservations about plant-based nutrition were addressed through communication strategies including meal naming strategies and adapted menu architecture in order to promote acceptance.

Results

The results show that plant-based food concepts can achieve significant acceptance in hospitals. At least 21 plant-based dishes were included in the menus of all hospitals. In addition to a higher acceptance of these dishes, they were also chosen more often (between 18%, 45% and up to 73% of all selected dishes). The interventions led to a measurable reduction in food waste of 13%, a reduction in CO₂ emissions of up to 12% and a constant to increased satisfaction among patients and staff. The economic viability of these changes was also verified and ensured. Overall, the interventions have led to greater awareness and interest in hospital catering among staff.

Conclusion

The project offers a scalable framework for the sustainable transformation of hospital catering and demonstrates the essential role of interdisciplinary collaboration, science-led communication and practice-oriented approaches. The insights gained from the project work and the transformation of the hospitals into best practice hospitals form a sound basis for the broader establishment of plant-based nutrition concepts as pioneers in healthcare facilities. We aim to share experiences learnt within the project with new, interested hospitals to drive change.

Conflicts of interest related to this abstract: None.

P-3032

Integrating Climate Resilience into Medical Curriculum: Bridging Early Warning Systems with Healthcare Preparedness in Dubai

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Introduction

The growing impacts of climate change, including extreme weather events, pose significant risks to public health worldwide. In Dubai, despite its advanced healthcare facilities, there is a notable absence of an integrated early warning system (EWS) that could enhance preparedness and response to climate-related emergencies. Medical education must evolve to equip future healthcare professionals with the necessary skills and knowledge to address these challenges. This research responds to global calls for climate-resilient health systems as outlined in the COP28 Declaration and WHO guidelines. By integrating climate resilience and EWS concepts into the medical curriculum, the study aims to build capacity among medical students – future leaders who will be pivotal in transforming Dubai's healthcare ecosystem.

Aim/Objective(s)

This research aims to develop, implement, and evaluate an innovative curriculum module integrating climate resilience and early warning system strategies into medical education program at Mohammed bin Rashid University of Medicine and Health Sciences. The module is designed to fill critical gaps in the current training of future healthcare professionals by equipping them with the essential knowledge and skills to interpret climate data, understand the complex health impacts of climate change, and respond effectively to climate-induced emergencies. Utilizing a mixed-methods approach, the study will assess current preparedness levels and identify specific training needs through quantitative surveys and qualitative focus groups. Tailored to Dubai's unique climate challenges, the curriculum will also address the operational components of early warning systems, fostering interdisciplinary collaboration and enhancing decision-making in emergency responses. Ultimately, the research seeks to create a model that strengthens resilience of Dubai's healthcare infrastructure by preparing new generation of climate-conscious medical professionals.

Methods

A mixed-methods approach was employed to comprehensively assess and develop the curriculum module. The study involved medical students at Mohammed bin Rashid University of Medicine and Health Sciences, selected through purposive sampling to ensure representation across different academic years. Data collection consisted of two main components: a structured survey and focus group discussions. The survey instrument, which included both closed-ended items (utilizing Likert scales and yes/no questions) and open-ended questions, was developed based on the IFMSA Climate and Health Training Manual and WHO quality criteria for early warning systems. Focus groups provided qualitative insights into students' perceptions and training needs regarding climate change and emergency response. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative responses underwent thematic analysis, ensuring a robust triangulation of findings to inform curriculum enhancement.

Results

Quantitative survey data revealed that only 35% of respondents felt adequately prepared for climate-induced emergencies, with an average preparedness rating of 2.8 out of 5. Over 70% of students indicated that the current curriculum insufficiently

addresses climate change and its health impacts. Qualitative focus groups further uncovered a strong demand for practical, hands-on training in emergency response and a clear understanding of early warning system (EWS) operations. Many participants emphasized the necessity of modules that focus on interpreting climate data and integrating such information into clinical practice. Triangulation of survey and focus group findings confirmed a critical gap in current educational approaches, underlining the need for a curriculum module that not only imparts theoretical knowledge but also equips future healthcare professionals with practical skills to manage climate-related health crises. These results provide a robust evidence base for the development of an innovative, context-specific educational framework at Mohammed bin Rashid University of Medicine and Health Sciences.

Conclusion

In conclusion, the study underscores the urgent need to integrate climate health education into the mandatory curriculum for medical students at Mohammed bin Rashid University of Medicine and Health Sciences. The findings reveal significant gaps in preparedness for climate-induced emergencies and the absence of practical training on early warning systems (EWS) in the current educational framework. By incorporating a dedicated curriculum module on climate resilience and EWS, future healthcare professionals will be better equipped to interpret climate data, implement rapid response measures, and ultimately contribute to a more resilient healthcare system in Dubai. This innovative educational strategy not only addresses the pressing challenges outlined in the introduction but also paves the way for significant improvements in health service delivery by fostering interdisciplinary collaboration and enhancing emergency preparedness. Furthermore, the study provides a model that can inform policy revisions and best practices, potentially influencing national and international standards in medical education and public health. Ultimately, embedding climate health into the curriculum represents a crucial step forward in building a proactive healthcare workforce capable of mitigating the impacts of climate change on public health.

Conflicts of interest related to this abstract: None

P-3033

Leadership strategies for environmental sustainability in hospitals: the role of sustainability ambassadors

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Introduction

Sustainability in healthcare institutions is a crucial concern due to the environmental impact of hospitals, which consume large amounts of energy, water, and materials, in addition to generating significant waste. Leadership plays a crucial role in promoting sustainability, ensuring that policies, procedures, and culture align with green practices. This project explores how hospital leadership can effectively manage and promote environmental sustainability. Key areas include integrating green initiatives, optimizing resource use, and fostering a culture of environmental responsibility among healthcare professionals through environmental ambassadors. By adopting evidence-based strategies, ambassadors can reduce their carbon footprint, improve energy efficiency, and implement waste management programs. This project seeks to demonstrate how leadership can drive change, establish sustainable protocols, and systematically incorporate sustainability into decision-making, ensuring long-term environmental benefits in every process of care and, ultimately, in the healthcare facility as a whole.

Aim/Objective(s)

The main objective of this project is to analyze and propose strategies for hospital leadership to effectively manage and promote environmental sustainability. The study seeks to identify key leadership principles that support sustainable practices, energy efficiency, waste reduction, and resource optimization. It also seeks to evaluate the role of sustainability ambassadors in fostering a culture of sustainability among healthcare professionals throughout the care process.

Methods

A sustainability committee is created with representation from all the hospital's healthcare processes. The group includes representatives from all the healthcare processes (emergency department, surgical, inpatient care, outpatient care) and support services (laboratory, pharmacy, radiology, etc.). These ambassadors act as sustainability leaders in the processes, identifying improvement practices moving toward green services (Green Lab, Green Pharmacy, Green Diagnostic Imaging) and enabling us to advance our Net Zero Hospital in Scopes 1, 2 toward reaching Scope 3. A literature review is conducted to evaluate existing sustainability initiatives and leadership models in healthcare settings. Data collection includes structured interviews with sustainability ambassadors and healthcare professionals to understand the challenges and best practices in sustainable hospital management across each process. Quantitative analysis includes the evaluation of hospital sustainability performance metrics, such as energy consumption, waste generation, and water use. Healthcare staff are surveyed to measure awareness and commitment to sustainability initiatives (green culture).

Results

The findings reveal that hospital leadership significantly influences sustainability outcomes by fostering a culture of environmental responsibility, improving consumption indicators, and helping achieve sustainability goals (consumption). Improvements in energy efficiency, waste reduction, and resource optimization have been demonstrated. Various sustainability threats and risks impacting the carbon footprint were identified across processes. Leaders developed prioritization and improvements across all processes to achieve green process objectives (GreenLab, GreenPharma, GreenDPI). Staff surveys highlight that leadership support increases awareness and participation in sustainability initiatives, with 80% of respondents stating that management's commitment to sustainability positively influences their practices. Furthermore, hospitals that implement green purchasing policies and sustainable building designs report long-term cost savings and improved environmental performance. The research also identifies challenges such as resistance to change, budget constraints, and the need for ongoing training. Addressing these obstacles requires strategic leadership, interdisciplinary collaboration, and stakeholder engagement. The results emphasize that a structured approach to sustainability, led by sustainability ambassadors and a supportive steering committee (governance), generates significant environmental and economic benefits, demonstrating the transformative power of leadership in sustainable healthcare management.

Conclusion

This study highlights the essential role of leadership in advancing hospital sustainability with the figure of the sustainability ambassadors. A Sustainability Ambassadors Committee in hospitals is essential to foster a culture of environmental responsibility. This committee ensures continuous implementation of green initiatives, engages staff at all levels, and promotes long-term sustainability goals. By providing leadership, education, and accountability, it strengthens commitment to sustainability,

reducing environmental impact while enhancing hospital efficiency. Effective leadership strategies, including commitment to environmental policies, staff engagement, and integration of sustainability into operational frameworks, contribute to significant improvements in hospital environmental performance. The research confirms that hospitals with proactive leadership experience greater energy efficiency, waste reduction, and increased staff participation in green initiatives. However, challenges such as financial constraints and resistance to change require strategic planning and continuous education. A leadership framework tailored to hospital sustainability is proposed, emphasizing the need for interdisciplinary collaboration, clear sustainability goals, and accountability measures. The study underscores that sustainable hospital management not only benefits the environment but also reduces consumption (water, energy, paper) and costs. By adopting leadership-driven sustainability strategies, hospitals can become models of environmental responsibility, demonstrating that healthcare institutions can play a crucial role in ecological conservation.

Conflicts of interest related to this abstract: None

P-3034

No Such Thing as Waste: Circular Healthcare in Zamboanga City Medical Center

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Introduction

Zamboanga City Medical Center is an apex tertiary government hospital that serves a diverse population with varying medical needs. As a leading hospital, it is essential for ZCMC to embody both excellent healthcare practices as well as environmental management. The hospital has started these endeavors through establishing the Safety and Environment Unit to prioritize, focus and innovate hospital operations into climate-smart initiatives. The Safety and Environment Unit aims to decrease facility carbon-footprint through collaborative efforts of clients and stakeholders. The hospital, like other health care institution in the region, generates a large amount of waste, including non-hazardous recyclable waste. When these materials are properly managed, it can contribute to waste recovery and reduction, and unnecessary waste disposal. Zamboanga City Medical Center strives to be a healthcare institution that exemplifies hospital sustainability on Zamboanga Peninsula and beyond that incorporates climate-smart practices to minimize the hospital's environmental impact.

Aim/Objective(s)

The program's objective is to promote hospital sustainability and responsible resource management in the healthcare system by focusing on reducing and recovering waste generated in the hospital. The hospital aims to minimize waste generation at the source, including hospital food waste, recyclables, and wastewater through waste management and reduction projects, such as enhanced waste segregation and banning of unnecessary use of plastic. This innovative initiative recovers and upcycles waste to create more usable products and services, such as food waste compost for greenspaces through bokashi fermentation or biodiesel production from hospital waste cooking oil. It involves embodying sustainable resource management through waste recovery methods. Finally, the hospital focuses on establishing awareness among employees, patients, and local partners about the importance of waste reduction and recovery, positioning ZCMC as a model for other local healthcare facilities that implement similar programs.

Methods

The ZCMC program integrates waste management and recovery to assure the efficiency of the project. Participants included employees, medical wards, Housekeeping Unit, with all other departments that generate considerable waste. Evidence is collected through quarterly waste audits and the Waste Analysis and Characterization Study (WACS). Additionally, there are also online monitoring sheets that provide asynchronous access to quantitative data. These monitoring sheets provide organized and easily accessible data for tracking waste reduction and recovery initiatives. The hospital uses modified waste segregation bins, Materials Recovery Facility, and other waste recovery methods including composting through Bokashi and turning used cooking oil into biodiesel. Regular reports and evaluation are made to monitor improvement on project goals, such as waste minimization and adverse environmental impact. This also assured sustainability and enhanced hospital operations. The implementation of the online monitoring and feedback tool guarantees that the project's progress where outcomes are tracked transparently and efficiently.

Results

ZCMC waste management and recovery projects, which combined waste segregation, recycling, and recovery initiatives, resulted in considerable improvement in environmental and operational efficiency. Through the conduct of quarterly waste audits and the Waste Analysis and Characterization Study (WACS), the hospital was able to significantly reduce the waste generation, specifically through more efficient waste segregation and resource recovery efforts. Programs such as wastewater recovery and the conversion of waste cooking oil into biodiesel have helped to the reduction of waste and greenhouse gas emissions. The adoption of improved waste segregation bins and a Materials Recovery Facility boosted recycling efforts, while the online monitoring sheets allowed for real-time progress tracking, assuring transparency. By optimizing resource utilization and enhancing operating efficiency, the initiative resulted in lower operational expenses, including reduced waste disposal fees and energy use. Employee participation across departments developed a sustainable culture, with hospital employees actively contributing in trash reduction and recovery. Regular reporting and assessments verified that the program achieved its waste reduction and sustainability objectives. Despite initial hurdles such as behavioral resistance and infrastructure expenses, the initiative resulted in long-term waste reduction, resource conservation, and a stronger reputation for ZCMC as a pioneer in sustainable healthcare practices.

Conclusion

The implementation of waste management and recovery programs and activities has contributed significantly to both environmental sustainability and the improvement of health service provided. By addressing the hospital's waste management issues, the program reduced waste generation and optimized resource use. The activities enabled hospital to allot funds into improving patient care and other operations, supporting the need for more efficient healthcare systems. This can be observed in the Nutrition and Dietetics Section where the harvested vegetables from the hospital garden helped the hospital provide more protein to patients. The innovative use of monitoring platforms and real-time data tracking has introduced a transparent and organized approach to waste management, which could serve as a model for other healthcare institutions. ZCMC's experience contributes to research on the application of circular economy principles in healthcare, especially within resource-constrained settings, offering valuable lessons for policymakers and administrators aiming to adopt similar sustainable practices. Furthermore, the hospital's initiatives may inspire future policy developments that prioritize environmental

sustainability while improving healthcare delivery. Overall, while challenges remain, ZCMC's waste management program has not only reduced its environmental footprint but also enhanced operational efficiency and the quality of care, reinforcing its role as a leader in sustainable healthcare.

Conflicts of interest related to this abstract: None

P-3035

Operating Room Logistic Optimization – Consignment circuit closed-loop

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Introduction

The Operating Room has a significant impact on clinical consumables costs in an hospital, with most requests for consigned materials, which are the property of the supplier until their use and respective billing. Until March 2024, Physicians ordered these materials on paper or by email and, although there were suppliers/materials stipulated, it was possible to request them outside these lists, making it difficult to control and detect these situations prior to their use, made more difficult by the manual and unstructured process. The various stakeholders did not have an integrated or ontime view of the status and location of the order, from the requester (Physicians), the validation of the OR (Nursing team), authorization (Production Department), request to the supplier (Logistics), material reception/distribution (Warehouse), record of material use in surgery (OR) to the issuance of the final order form (Logistics), resulting in duplicate and unnecessary orders.

Aim/Objective(s)

Analyze and redefine the entire logistics circuit of consigned materials, with particular emphasis on:

- Design a process of dematerialization of the circuit for consigned materials/equipment
- Streamline the process of requisitioning materials consigned
- Avoid duplication of orders for surgeries
- Provide real-time information on the status and location of the consigned materials to all involved in the process (requester/surgical specialty, production management, purchasing center, warehouse, sterilization center and operating room), avoiding for example surgical cancellations related to lack of information of the request.
- Delimit the range of choices of materials/equipment pre-approved by the production management
- Create a closed loop system to the flow of material/equipment from the request by the physician to the purchase order to the supplier

As a result of the implementation of the project, it is intended to have more control of the process identified and reduce the average cost per surgery with clinical consumables.

Methods

It was redesigned the process of material/equipment circuit with the collaboration of all surgical areas. It was performed a market search of a software to all process needs, but all failed to accomplish the requirements. Therefore, it was decided to develop internally a tool, that in a first phase served as a concept test and in a later phase, can be integrated with electronic clinical process/ERP. This tool is in constant improvement and adjust with the operational team to be as much user friendly as possible. Training was carried out for all areas involved in the process. The list of consigned materials pre-approved, resident consignments, and the flow chart for approving these requests was redefined. A KPI dashboard was created for the entire pro-

cess: warehouse delivery times, approval times, time in advance of the physician's request in relation to the date of surgery and compliance with awards.

Results

The objective of redefining the entire circuit for consigned materials/equipment was achieved, providing real-time information to all parties involved in the process, integrated into an intuitive and easy-to-use IT platform, developed internally. As an outcome resulting from improved compliance with the use of materials/equipment pre-defined and authorized by management, there was greater compliance with the list of suppliers awarded, going from 37% out of the list in 2023 to 18% in 2024, and in the last two months of 2024 this figure stands at 7%. With this process, it was also possible to reduce the duplication of orders that are requested to the suppliers, since even if the physician makes a duplicate request, is analyzed throughout the approval circuit, and the duplicates are cancelled. This process change contributed to reducing the time the physician spent on requesting and monitoring the material needed for surgeries, as well as allowing real-time monitoring for all those interested in the process on the status of the material. Finally, and following the results described above, in relation to the main objective of this project, there was a reduction in the average cost of clinical consumables per surgery by 9% (2024 VS 2023).

Conclusion

The tool developed ended up translating into one of the biggest positive outcomes of this project, creating a constant involvement of the various elements of the team, creating a proximity for decision-making and process management that are also reflected in greater control in the consumption of this medical devices/equipment's. Currently, this tool has 100% adherence from all surgical areas, demonstrating the robustness of the circuit redefinition. The various stakeholders did not have an integrated or on-time view of the status and location of the order, from the requester (Physician), OR validation (Nursing), authorization (Production), request to the supplier (Logistics), material reception/distribution (Warehouse), recording the use of material in surgery (OR) until the issuance of the final order form (Logistics), resulting in duplicate and unnecessary orders. For the initial objectives, this process review and this tool also allowed to significantly improve the relationship with the main suppliers of these materials, which often manifested constraints in the high release time of surplus material after surgeries and in addition to the reduction of duplicate orders that added costs to suppliers.

Conflicts of interest related to this abstract: none

P-3036

Perception and Behavior of the Perioperative Team: Reducing Carbon Footprint in Outpatient Surgery

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Introduction

The climate crisis is the greatest threat to human health in the 21st century and results, to a large extent, from greenhouse gas (GHG) emissions of anthropogenic origin. Healthcare is responsible for 5% of global GHG emissions and if the healthcare sector were a country it would be the fifth largest CO₂ emitter in the world. As the Operating Room (OR) is responsible for 30% of hospital waste and given that a surgery generates more waste than a family of four during a week, the contribution of this context to the increase in the environmental footprint is clear.

This study aligns with the congress themes by address healthcare sustainability, environmental innovation and best practices in the OR, a hospital sector with significant environmental impact. The findings provide valuable insights for healthcare professionals and hospital managers, supporting the implementation of sustainable practices to reduce the carbon footprint in surgical care.

Aim/Objective(s)

The objectives of the research study are:

- to understand the perception of the multidisciplinary pre-operative team in the OR of a hospital in northern mainland Portugal regarding the environmental footprint.
- to identify the behaviors adopted by the perioperative team to reduce the carbon footprint in outpatient surgery.

The purpose of the study is to contribute to the development of a decarbonization roadmap with continuous improvement strategies, promoting the decarbonization, achieve net zero and reducing costs, thereby contributing to the financial sustainability of the Nacional Health Service (NHS).

Methods

The study followed a quantitative, descriptive, cross-sectional study. Non-probability sampling technique with 102 participants. The questionnaire was used as a data collection instrument. The content validity of the questionnaire constructed and applied to the multidisciplinary perioperative team of the OR of a hospital in the north of mainland Portugal was assessed by eleven experts in the area of environmental sustainability, applying innovative methodology by integrating expert validation (e-Delphi), in a total of two rounds to develop a robust framework for preoperative sustainability assessment. The questionnaires were sent in digital format and the results obtained were subjected to descriptive analysis. All ethical principles inherent to the development of research studies involving humans were complied with.

Results

Of the 102 participants, 98.0% (n = 100) agree that global warming and climate change are related to the environmental footprint and that small changes in BO can minimize GHGs. The majority of participants (72.5%, n = 74) reported that there were no routines for sharing knowledge about good environmental practices in the OR, and in-service training on this topic was mentioned by 82.4% of participants (n = 84) as the priority strategy to improve the behavior of the perioperative team, in order to reduce the environmental footprint in the OR. More than half of the participants (66.7%, n = 68) consider that the perioperative team is frequently concerned with sorting waste in operating rooms, however, 56.9% (n = 58) consider that the protocols/standards /Existing measures in the BO regarding waste sorting are not adequate to reduce the environmental footprint. Regarding medication disposal, 40.2% of participants (n = 41) reported that in their work context, bottles and syringes with medication are discarded in Group IV waste. The majority of participants (97.1%; n = 99) consider it important to separate plastic to reduce the environmental footprint. It's important that multidisciplinary perioperative team perceives the changes capable of reducing the carbon footprint in the OR, including them in clinical practice.

Conclusion

The conclusion of this study highlights training in environmental sustainability as a priority strategy, emphasized by participants as essential for reducing the carbon footprint in the Operating Room (OR). Introducing this subject into undergraduate and postgraduate healthcare education would ensure that all healthcare professionals attain an optimal level of literacy in environmental health, making sustainability an integral part of clinical practice.

Training should be focused on concrete strategies, such as improving waste segregation, transitioning to reusable medical devices, and adopting a sustainable surgical registry through a platform. Additionally, implementing an OR closure checklist, ensuring that unnecessary equipment and ventilation systems are turned off, would help reduce energy consumption.

Other key measures include reducing water consumption by promoting hand hygiene with alcohol-based solutions and expanding teleconsultations, minimizing unnecessary travel and its associated environmental impact.

To address these challenges, a decarbonization roadmap prioritize:

- 1- Integrating sustainability into undergraduate and postgraduate healthcare education;
- 2- Developing in-service training programs;
- 3- Fostering institutional policies that support sustainable perioperative practices.

Embedding sustainability into the foundational training of healthcare professionals is essential to creating a long-term culture of environmentally responsible perioperative care, ultimately reducing the OR's carbon footprint while maintaining high-quality patient care.

Conflicts of interest related to this abstract: None

P-3037

Practical Application of Smart Energy-Saving Elevators: A Case Study of a Medical Center in Central Taiwan

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Introduction

The United Nations SDGs' sustainable city indicators have become the next development guideline for modern urban areas. Smooth vertical transportation will serve as the final piece of the puzzle in smart buildings. Traditionally, elevator energy-saving methods have focused on replacing basic electromechanical equipment with high-efficiency energy-saving motors and adjusting elevator operation mechanisms based on statistical data. With the implementation of intelligent elevator systems, not only can a more convenient riding experience be achieved, but transportation distribution can also be automatically and instantly optimized according to actual passenger flow. This enables smart and efficient elevator operations, further reducing energy consumption.

Aim/Objective(s)

Through intelligent system calculations, the direct-to-destination function is automatically activated, reducing door opening and closing times and maximizing elevator efficiency. Simultaneously, integrating a power regeneration system not only effectively reduces public electricity consumption but also helps hospitals contribute to environmental sustainability goals.

In the future, beyond gradually upgrading elevators to high-efficiency electromechanical equipment and power regeneration systems, the focus will shift toward fully implementing intelligent elevator management. This will continuously enhance elevator load efficiency and energy-saving measures, ensuring the ongoing promotion of sustainable energy practices.

Methods

This project is driven by two key strategies: Intelligent Elevator System and the Power Recovery Mechanism. Intelligent Elevator System: Efficient Transportation: Space Capacity Detection: AI image analysis technology eliminates errors caused by traditional weight-based calculations, reducing energy waste and

delays from unnecessary stops while enhancing operational efficiency. **Digital Management: Passenger Flow Analysis:** Real-time tracking of movement data enables optimization of hospital traffic flow and elevator usage strategies, facilitating the development of precise vertical transportation plans. **Track elevator usage and monitor its carbon footprint.** **Smart Safety: Automatic Entrapment Detection:** AI-powered monitoring detects incidents where passengers are trapped. **User-Friendly Experience: Smart Voice-Controlled Elevator Calls:** Passengers can operate the elevator using voice commands. **Staff transporting large hospital beds or heavy equipment can call elevators remotely.** **Power Recovery Mechanism:** Adopt regenerative energy technology with an elevator kinetic energy recovery system. Capture the kinetic energy generated during elevator operation and convert it into electricity for reuse in other systems or equipment.

Results

The system was installed in November 2023, with data collected from December 1 to December 14, 2023, as the control group. The intelligent system was activated on December 15, 2023, with data collected until December 31, 2023, as the experimental group for comparison.

1. **Intelligent Elevator System: Reduced Passenger Waiting Time:** Decreased by 4.65%.

Increased Transportation Capacity: Total passenger transport volume increased by 47.73%. **Smart Voice-Controlled Operations:** Over 10,234 voice command activations recorded. **Enhanced Information Delivery:** Added health education content and hospital announcements, reaching a total of 1 million impressions. **Real-Time Entrapment & Emergency Detection:** Reduced the workload of on-duty personnel by enabling 24/7 monitoring of trapped passengers and distress signals. **Shortened response time for assistance** from over 5 minutes to just 30 seconds. **Seismic Safety Features:** When an earthquake of magnitude 4 or above is detected, the system automatically stops and opens elevator doors, reducing the risk of passenger entrapment. Successfully predicted 8 earthquakes, allowing an average of 4.21 seconds to safely park elevators and minimize damage and entrapment risks.

2. **Power Recovery Mechanism: Energy Loss Reduction via Smart Traffic Monitoring:** Up to 12.91% reduction in energy consumption.

Conclusion

The intelligent elevator system is an externally deployed computing solution that integrates with existing elevators. It consists of a computing host, network interface, sensing modules, and output modules, combining various AI and IoT services and applications. This system detects and processes signals from the surrounding elevator environment to optimize elevator operations. By simply interfacing with the elevator button control circuit, it upgrades existing elevators into smart elevators without requiring costly replacements of the entire control system, which is often restricted by elevator manufacturers. This plug-and-play approach significantly simplifies the upgrade process while preserving the original elevator system's maintenance and operations. It functions like an invisible elevator assistant, allowing passengers to experience intelligent services and enabling elevators to fully demonstrate the benefits of smart technology.

Conflicts of interest related to this abstract: NONE

P-3038

Promoting sustainability awareness in a first-level hospital. Co-commitment to the present, a bet to the healthcare future.

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Introduction

It is estimated that 80% of the determinants of health and well-being are outside the health system. Therefore, fostering global approaches in healthcare institutions that integrate social and environmental aspects related to the community is needed to improve people's health. On the other hand, within a public health system, aspects such as ethical management, transparency, or efficiency in the use of public resources are key issues to guarantee the economical sustainability of the health system. In this context, the integration of sustainability in a strategic way, from a triple perspective that addresses the aspects of good governance and ethical management, social commitment and environmental protection, is presented as the path to continue advancing toward excellence in the management of healthcare organizations and for a healthcare model that responds to the major global challenges related to sustainability and people's health.

Aim/Objective(s)

Hospital Clínic de Barcelona's Corporate Social Responsibility Department (CSR Area) fosters different actions to promote sustainability, the 2030 Agenda, and the Sustainable Development Goals as part of the institutional commitment to healthcare, as set out in the organization's Sustainability Policy. But to promote sustainability in healthcare institutions, it is not enough to have institutional policies, it is necessary to promote participatory projects aimed at healthcare professionals, which promote a sustainability awareness in the organization. On the other side, the health sector must face huge challenges as to social inequalities or the response to the climate crisis and its effects on health. Into this global context, CSR Area sustainability awareness strategy focuses on two main objectives:

- Internal culture. How to make a more sustainable hospital, focus on promoting sustainability among professionals at the organization.
- Healthcare sector. Becoming a key agent for the promotion of sustainability in the healthcare sector.

Methods

Objective 1. To boost the organization's internal sustainability culture.

- Annual call for the SDG Clínic Awards with the aim to recognize those projects that have practical implications related to sustainability.
- Dissemination and awareness-raising actions (internal news, gamification, etc.).
- To participate in internal clinical sessions of Institutes and healthcare Services to link their activity to social and environmental sustainability and the initiatives promoted in the hospital in these areas.
- Sustainability session in residents training, which includes the hospital's commitment in this field.

Objective 2. To promote a more sustainable healthcare sector.

- Conferences organization in the field of sustainability and the SDGs in the healthcare sector, with the aim of disseminating knowledge and promotion of good practices in health institutions.

- Active participation in focus groups and sectoral initiatives for the promotion of sustainability in the healthcare sector.
- Awareness-raising actions related to the important relationship that exists between the binomial sustainability and health.

Results

Objective 1.

SDG Clinic Awards.

- 2 calls years 2023 and 2024. 80 applications and projects submitted. 16 initiatives awarded in the field of corporate values and good governance, social commitment and environmental management.
- The 2025 call has been extended to the Campus Clinic institutions (Hospital Clinic with IDIBAPS and ISGLOBAL research centers).

Awareness-raising actions and gamification:

- Publication of at least 5 annual internal news related to sustainability and its relationship with health.
- *Let's be efficient, let's protect the planet campaign*, aimed to use energy more efficiently, which included a gamification activity where more than 800 professionals participated.
- Commuting survey. More than 1,300 professionals responded to this survey, which has been useful in identifying more sustainable mobility options.
- More than 400 hundred residents attended the first sustainability training.

Objective 2.

- Organization, at least two sectoral conferences per year, in the field of sustainability, social commitment and ethical management.
- Active participation in sustainability initiatives and focus groups, such as the More Sustainable Barcelona Network or Healthcare for the climate.
- Publication of the first commitment report, to demonstrate the continued engagement of the hospital with UN Global Compact and the 2030 Agenda, which has been awarded by Avedis Donabedian Foundation.

Conclusion

Healthcare organizations must be increasingly aware of ethical, environmental and social issues. The challenges they face today go beyond healthcare, and factors such as globalization, cultural diversity, vulnerable individuals, or the climate crisis and its effects are shaping the healthcare future.

In this context, Hospital Clinic wants to become a key player, not only for the quality of its healthcare assistance but also for its commitment to a responsible and sustainable healthcare model. These challenges must be tackled through day-to-day management and, based on institutional commitment, must involve professionals and the entire organization with common cross-cutting sustainability objectives. Likewise, the Clinic Barcelona Hospital promotes alliances with different healthcare institutions and participates in external initiatives, sharing knowledge and resources to promote healthcare processes of the highest quality and the sustainability of the public health service. The sustainability awareness strategy fostered through the CSR Area, has resulted in awareness rising among health professionals of Clinic Barcelona Hospital in this field. Institutional participation has also contributed to a healthcare sector moving towards more sustainable development, increasingly integrating the relationship between sustainability and health.

Conflicts of interest related to this abstract: None

P-3039

Promoting Sustainable Food Waste Management through Recycling Uneaten Patients Meals at Al Dhaid Hospital

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Introduction

Food waste is a growing issue globally, and hospitals are no exception. At Al Dhaid Hospital, part of the Emirates Health Services, food waste, particularly from uneaten patients' meals, represents a significant environmental and financial challenge. In 2023, approximately 30% of patients' meals were uneaten, contributing to unnecessary resource waste, increased operational costs, and environmental pollution. As part of the UAE's broader push for sustainability, Al Dhaid Hospital recognized the need for a more systematic approach to manage food waste. This project focuses on repurposing uneaten meals through recycling and composting to reduce waste and lower costs. Al Dhaid Hospital, with its diverse range of medical services and 71-bed capacity, is committed to become a model of sustainability in the healthcare sector. By addressing food waste, the hospital aims to enhance its environmental stewardship, reduce operational costs, and foster a culture of sustainability within the hospital and the broader community.

Aim/Objective(s)

The "Promoting Sustainable Food Waste Management through Recycling Uneaten Patients' Meals at Al Dhaid Hospital" project aims to reduce food waste through smart meal planning, environmental sustainability, and operational efficiency. This initiative helps reduce food-related costs and minimizes the financial impact of waste. In 2023, the project achieved a 10% reduction in food waste, followed by an additional 40% reduction in 2024, totaling a 50% decrease. The hospital introduced a real-time meal feedback system to collect patient input, improving portion control and meal planning. This helps minimize waste by ensuring food is served in appropriate amounts. Additionally, 75% of uneaten food is composted, enriching the hospital's gardens. The hospital also adopted a zero-waste policy, cutting plastic packaging and encouraging the use of reusable materials. This project inspires other hospitals within the Emirates Health Service Network to adopt similar sustainable practices, extending the environmental and cost-saving impact across the healthcare sector.

Methods

Al Dhaid Hospital's project employed a mixed-methods approach to reduce food waste, engaging hospital staff, patients, and the food service team through purposive sampling. This targeted selection focused on individuals involved in meal preparation, distribution, and consumption, ensuring relevant insights. Data collection methods included waste audits, surveys, real-time digital feedback, and structured interviews. Waste audits tracked the quantity and types of uneaten food, while surveys and feedback tools measured patient satisfaction and raised awareness about food waste. Interviews explored challenges faced by staff and patients in food waste reduction. Training sessions for Al Dhaid hospital staff aligned participants with the hospital's sustainability goals. Data analysis used statistical methods to quantify waste reduction and thematic analysis to identify obstacles and improvements. These efforts refined meal planning, improved portion control, and optimized recycling practices. The project resulted in a 50% reduction in food waste, significantly advancing the hospital's sustainability objectives and operations.

Results

Al Dhaid Hospital successfully reduced food waste by 10% in 2023 and achieved a 50% reduction in 2024, surpassing its initial goals. Before the project, 30% of patient meals at Al Dhaid Hospital were discarded, leading to both environmental and financial concerns. By adopting smart meal planning, improved portion control, and real-time patient feedback systems, the hospital effectively minimized overproduction and waste. A composting initiative, introduced in 2023, repurposed 75% of uneaten food into compost by 2024, which was then used to enrich the hospital's gardens. These actions led to a 14% reduction in food procurement and waste disposal costs, demonstrating significant operational efficiency. Additionally, the hospital implemented a zero-waste policy, cutting down on plastic packaging and promoting the use of reusable materials. Partnerships with local schools and organizations further raised awareness of food sustainability. A shift towards organic, locally sourced ingredients also helped lower the Dhaid hospital's carbon footprint. The project not only strengthened the hospital's sustainability efforts but also engaged patients, staff, and the community in long-term waste reduction practices. This integrated approach highlights how waste reduction strategies can drive environmental responsibility, lower costs, and enhance patient satisfaction, positioning the hospital as a model for sustainable healthcare practices.

Conclusion

The sustainable food waste management project at Al Dhaid Hospital has significantly improved health service efficiency and environmental sustainability. Achieving a 50% reduction in food waste has not only enhanced operational performance but also lowered food procurement and disposal costs. Personalized meal planning has resulted in increased patient satisfaction while engaging staff in waste reduction initiatives, fostering a cleaner, more sustainable environment. This project serves as a replicable model for other healthcare institutions, setting a benchmark for sustainability in the sector and guiding policies aimed at waste reduction. Innovative technologies and real-time feedback systems have opened exciting avenues for future research into sustainable healthcare practices. A notable innovation is the repurposing of composted food waste to cultivate organic produce in Al Dhaid hospital gardens, which is then used in meals for patients, further diminishing the hospital's carbon footprint. This model is set to be expanded across the hospital network, aligned with the UAE's Vision 2031 sustainability goals. The project also reaches beyond hospital walls through collaborations with local schools and community organizations to promote eco-friendly practices. Initiatives such as biodegradable meals and recyclable cutlery underscore the program's holistic approach, setting new standards for sustainable food services while enhancing patient care.

Conflicts of interest related to this abstract: NONE

P-3040

Purchasing renewable energy directly from a wind farm – experience of a Hospital Group in Ireland.

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Introduction

Ireland's largest provider of private healthcare, Bon Secours Health System, is the first hospital group in Ireland to sign an agreement where it purchases renewable electricity directly from a wind or solar farm, more commonly known as a Corporate Power Purchase Agreement (CPPA). The Hospital Group is committed to sustainability, with stewardship listed amongst the Groups 5 values. The Hospital Group embraces its role as custodian of the environment it occupies and beyond.

Aim/Objective(s)

The aim of the project was to support the BSHS mission of delivering sustainability and reducing the Hospital Group's carbon footprint. In addition, the promise of budget predictability in a buoyant and rapidly fluctuating energy market was an additional benefit in terms of prudent fiscal management.

Methods

As Ireland's largest provider of private healthcare, Bon Secours Health System, in 2023, was the first hospital group in Ireland to sign an agreement where it purchases renewable electricity directly from a wind or solar farm, more commonly known as a Corporate Power Purchase Agreement (CPPA). BSHS is being powered by renewable electricity harnessed from a wind farm in Tipperary, Ireland and used across the Hospital Groups six sites.

Results

Since its introduction in 2023, the CPPA has met 50% of the Bon Secours Health System (BSHS) annual electricity requirements and supports its sustainability ambitions over the coming years to reduce carbon emissions. The CPPA provides BSHS with the assurance that the renewable electricity is 100% fully traceable – moving beyond generic, certificate backed tariffs.

Conclusion

The purchase of renewable energy from a wind farm through an CPPA has enabled BSHS to reduce its carbon footprint, attain budget predictability in an unstable energy market and support its sustainability initiatives.

Conflicts of interest related to this abstract: None

P-3041

Solar Water Heating System – Dual Source Hot Water Generation System – Sustainable Project – Enhancing EHS Strategic Objectives 2026, UAE Green Agenda.

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Introduction

The dual-source solar hot water generation system is a sustainable project equipped with 40 solar cells, this project is contributed to the success of implementing green solutions in the hospital and considering it one of the most significant green projects in the hospital. The system was installed in Dibba Hospital in April 2022. The system consists of the main parts: solar cells, boilers, heaters, water pipes, and water pumps. this sustainable system works partly with solar energy to heat the water to reach a temperature of 50-60 degrees Celsius, as 40 solar panels are activated and in case of insufficient solar radiation, the boiler system is automatically activated. It is worth noting that the system has 3 positive effects, all of which helped reduce diesel fuel consumption, which greatly affected the lower financial cost and reduced Carbon emissions. The system is monitored and operated using a BMS building monitoring system.

Aim/Objective(s)

The main objective of this project is to clarify the importance of installing a solar water heating system in order to obtain sustainable solutions to work on heating water centrally using solar cells and dispensing with large quantities of diesel fuel, thus reducing the financial cost in addition to reducing carbon emissions to preserve the environment in addition to confirming that reduction, by preparing analytical study for 5 years and comparative work of the results obtained before installation and the results in the First, second and third year, The results will be monitored and the required comparisons will be made to ensure the effectiveness of the system. also raising the level of user

satisfaction, as previously there was a challenge in the lack of hot water due to the old system and after it was changed to a solar heating system, the efficiency and availability of hot water became high.

Methods

Solar panels are used to heat up the water day and night, especially in hot seasons of the year. However, in winter when sunlight is not sufficient to heat water, we use a boiler to heat the water. Method of work as the following: We have two basic circuits to heat the coil in calorimeter. Lateral, this is done by solar panels during the day and the boiler during the night. Secondary circuits are located between the calorimeter and the hospital. The water for hospital is continuously flowing through calorifier using circulation pump, the water will maintain to required water temperature 60 c. HMI is monitoring temperature when the solar panel can't give sufficient temperature output, then HMI will send signals to the boiler to start, BMS building management system is a tool to monitor, control and collect the data then analyzing to compare the old boiler with new system.

Results

1- Diesel Consumption:

1.1 *Before Water Heating Solar System Installation:*

- Consumption (Value in Liter): Year 1 = 125,040 and Year 2 = 250,080 and Year 3 = 375,120
- Cumulative consumption in 5 years: 625,200 Liter.

1.2 *After Water Heating Solar System Installation:*

- Consumption (Value in Liter): Year 1 = 31,460 and Year 2 = 71,740 and Year 3 = 107,260
- Cumulative consumption in 5 years: 178,766 Liter.

2- Operational Cost:

2.1 *Before Water Heating Solar System Installation:*

- Cost (in Dollar): Year 1 = 128106.2 and Year 2 = 256212.53 and Year 3 = 384010
- Cumulative consumption in 5 years: 640016.88 Dollar

2.2 *After Water Heating Solar System Installation:*

- Cost (in Dollar): Year 1 = 27945.50 and Year 2 = 67171.93 and Year 3 = 95200.86
- Cumulative consumption in 5 years: 158667.28 Dollar

3- Carbon emission:

3.1 *Before Water Heating Solar System Installation:*

- Carbon emission (KG CO₂/Liter): Year 1 = 335107 and Year 2 = 670214 and Year 3 = 1005322
- Cumulative consumption in 5 years: 1675536 KG CO₂/Liter.

3.2 *After Water Heating Solar System Installation:*

- Carbon (KG CO₂ /Liter) Year 1 = 84313 and Year 2 = 192263 and Year 3 = 287457
- Cumulative consumption in 5 years: 479093 KGCO₂/Liter

Conclusion

In the end, implemented of the sustainable Dual source solar hot water generation system considered a highly efficient system. It contributed to the development of health facilities through its high efficiency. The results were tested cumulatively during the 5-year forecast, the readings are monitored on a monthly basis to reach a cumulative consumption on an annual basis, such as reducing diesel consumption, which it reached from 625,200 liters to 178766 liters so the savings quantities = 446,434 liters, also financial cost decreases from 640016.88 dollars to 158667.28 dollars so the savings values = 481349.6 = Dollars. In addition to the direct relationship of reduced diesel consumption and reducing carbon emissions to reached from 1,675,536kg of carbon dioxide to 479093kg of carbon dioxide so reduction in the carbon emission value = 1196443kg of carbon dioxide. implemented this project considered as innovative, green projects enhancing the health facility

environment as green and remarkable achievements, which Emphasizes environmental to support net zero. After installed this system, a significant difference was observed, not only in reducing fuel consumption, financial costs and carbon footprint, but also in increasing customer satisfaction and reducing complaints from them, due to the continuous availability of hot water in the hospital building.

Conflicts of interest related to this abstract: None

P-3042

Striving for system change for greater sustainability outcomes and net zero: Karolinska University Hospital's Sustainability Programme

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Introduction

The healthcare sector plays a crucial role in addressing climate change, requiring systemic transformation to achieve a sustainable, resilient future. Region Stockholm has set an ambitious target to reduce its total climate impact by 50% between 2019 and 2030, with Karolinska University Hospital at the forefront of this effort. To accelerate progress, Karolinska launched a comprehensive sustainability programme in 2023, aligning with Region Stockholm's sustainability strategy and policies. This programme provides a structured framework for integrating sustainability into daily operations, balancing environmental responsibility with social and economic sustainability. Among its seven strategic goals, two specifically target environmental impact: increasing circular resource use while cutting climate emissions by 40% by 2027, and reducing hazardous emissions from chemicals and pharmaceuticals. Through these initiatives, Karolinska is driving system-level change in healthcare, demonstrating that sustainability and high-quality patient care can go hand in hand.

Aim/Objective(s)

Karolinska University Hospital is committed to reducing its environmental and climate footprint in line with its environmental management system and ISO 14001 certification. To support this mission, the hospital launched a guiding sustainability programme in 2023, running until the end of 2027. The programme serves as a strategic tool to drive system change by gathering, systematizing, and sharpening sustainability efforts across all operations. A key objective of the programme is to foster a stronger sense of sustainability ownership within the hospital's various departments. By doing so, it enables the development of targeted, high-impact initiatives tailored to each department's unique functions. The programme incorporates overarching goals that address environmental, economic, and social sustainability, ensuring a balanced and holistic approach. Through this structured framework, Karolinska aims to integrate sustainability into core healthcare practices while maintaining high-quality patient care and long-term resilience.

Methods

To ensure effective implementation and progress tracking, Karolinska University Hospital's sustainability programme is supported by a comprehensive measurement structure. This structure enables systematic monitoring and evaluation, ensuring that sustainability efforts are both measurable and actionable. The programme includes quarterly follow-ups with each unit to assess progress and address challenges in real time. Additionally, yearly progress reports provide an overarching analysis of achievements and areas for improvement. Internal and external audits further strengthen accountability and ensure compliance with environmental management standards, including ISO 14001.

To enhance transparency and decision-making, data visualization tools are integrated into the process, allowing stakeholders to track performance metrics and trends over time. By combining these methods, Karolinska ensures continuous improvement, fostering a data-driven approach to achieving its sustainability goals while embedding sustainable practices across the hospital's operations.

Results

Through the implementation of Karolinska University Hospital's sustainability programme, significant progress has been made toward achieving net-zero emissions. By systematically integrating sustainability into daily operations, the hospital has taken concrete steps to reduce its climate footprint in line with its programme goals. One key achievement is the shift toward circular resource use. In 2023, Karolinska introduced 100,000 circular aprons, reducing CO₂ emissions by 66% compared to traditional alternatives – cutting 15,300 kg of CO₂. Additionally, the proportion of biobased aprons increased from 18% in 2022 to 43% in 2024, while biobased needle containers rose from 1% to 26%. The hospital's reuse portal further supported circularity by redistributing nearly 1,700 pieces of furniture in 2022–2023, saving 4 million SEK and avoiding 140,000 kg of CO₂ emissions. Aligned with the goal to reduce hazardous emissions, Karolinska has decreased the number of CMR chemical products by 18% and cut environmentally harmful pharmaceuticals such as citalopram and felodipine by over 50%. Additionally, food waste has been reduced by 15%. These results demonstrate how Karolinska's sustainability programme is driving systemic change, embedding sustainability into healthcare operations, and accelerating the transition to a net-zero future while maintaining high-quality patient care and long-term resilience and economic sustainability.

Conclusion

Karolinska University Hospital's sustainability programme serves as a vital driver of system change, demonstrating that healthcare institutions can play a crucial role in work towards net-zero emissions while maintaining high-quality patient care. By embedding sustainability into core operations, the hospital is not only reducing its environmental footprint but also fostering long-term economic and social resilience. Through structured monitoring, department-specific ownership, and a strong focus on circular resource use, Karolinska has successfully implemented tangible initiatives that contribute to a lower carbon footprint. The reduction of hazardous emissions, the shift to circular and biobased materials, and the effective reuse of resources highlight the impact of a structured and data-driven approach. While significant progress has been made, achieving net zero in healthcare requires continued innovation, cross-sector collaboration, and strong policy alignment. Karolinska's sustainability programme provides a replicable model for other healthcare institutions, showcasing how strategic leadership, targeted initiatives, and continuous evaluation can accelerate the transition toward a more sustainable and climate-resilient healthcare system. By scaling these efforts, Karolinska is not only meeting its own sustainability targets but also setting a benchmark for the future of sustainable healthcare.

Conflicts of interest related to this abstract: None

P-3043

Sustainability in Action: Fujairah Hospital's Journey with the SAT Tool

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Introduction

The Sustainability Accelerator Tool (SAT), developed by the Geneva Sustainability Centre in collaboration with Deloitte and the International Hospital Federation (IHF), aims to enhance sustainability practices in healthcare institutions. SAT assists organizations in identifying the following steps and creating sustainability and climate-resilient healthcare plans. The tool features a questionnaire with fifty-six questions across three domains and seventeen subdomains, each providing four possible answers to best fit the organization's context. We utilized the SAT tool to evaluate our organization's maturity and performance across key climate and sustainability indicators.

Aim/Objective(s)

Fujairah Hospital main aim was to establish a comprehensive framework for enhancing sustainability practices. Of the several measures adopted, one of its objective was to implement the Sustainability Accelerator Tool (SAT) to benchmark and identify the gaps in waste segregation, energy management, and community outreach.

Methods

The methodology for implementing the Sustainability Assessment Tool (SAT) at Fujairah Hospital involved several key steps. First, meetings were held with stakeholders, including management, clinical staff, and support personnel, to identify sustainability initiatives, challenges, and opportunities. Next, a baseline assessment was conducted to gather data on energy consumption, waste management, water usage, and community engagement. The SAT tool was then utilized to map workflows, visualize current operations, and pinpoint areas for improvement. This was followed by a gap analysis, which compared the hospital's performance to best practices and sustainability benchmarks. Tailored recommendations were organized into a structured action plan with clear timelines and assigned responsibilities. Finally, training sessions were conducted to ensure that hospital staff understood the recommendations and had the necessary resources for effective implementation.

Results

Our organization scored well in maturity and performance in comparison to benchmark assigned by the SAT tool; achieving 76.00% in Environmental Impact, 66.75% in Health, Equity, and Wellbeing, and 79.00% in Leadership and Governance, surpassing their respective benchmarks. Workflow mapping identified waste management bottlenecks, leading to an action plan that includes a recycling program, energy-efficient lighting upgrades, and partnerships with local sustainability organizations. Staff training sessions increased engagement and fostered a sustainability culture. There was a significant reduction in the hospital's carbon footprint over three years, setting the stage for ongoing improvements. The supporting document enclosed illustrates the performance under the sub-domains of these areas.

Conclusion

By identifying gaps in waste segregation, energy management, and community outreach, Fujairah hospital has pinpointed key areas for improvement. Enhanced workflow efficiency and actionable recommendations indicate significant operational and environmental benefits. Staff engagement has been pivotal in

fostering a cultural shift towards sustainability, underscoring the importance of ongoing education and involvement for the success of these initiatives. The SAT tool has been key in assessing our current status and refining our strategy for achieving net zero, climate resilience, and sustainable health systems. The hospital has met its sustainability goals by addressing gaps and streamlining workflows through increased staff engagement and strong leadership support. The significant rise in staff involvement and creating a comprehensive action plan are vital for fostering a sustainable healthcare environment. Furthermore, the expected reduction in the hospital's carbon footprint underscores the importance of these initiatives in enhancing health system resilience and promoting environmental stewardship.

Conflicts of interest related to this abstract: None

P-3044

Sustainability Prescribers: the authority of white gowns at the service of the fight against Climate Change

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Introduction

The relationship established between people and healthcare professionals is based on absolute trust, as we play a fundamental role in their lives. As a result of this close relationship, we recognize the moral authority of our professionals, that look after the health of individuals. At the same time, we are facing a new reality, our global patterns are being reshaped, affecting our daily lives, both inside and outside healthcare spaces. In this journey, precisely because we play a crucial role in people's lives, it is important for us to lead the fight against Climate Change.

Aim/Objective(s)

The starting point is the inspiring power of a sector dedicated at the population's the well-being.

Our climate action as a healthcare organization not only aims to mitigate the effects of climate change and adapt to it, but also to inspire society to act on this immense challenge that humanity faces, the Climate Change.

The "Sustainability Prescribers" project has as its main goal to provide healthcare professionals with useful tools to act:

1. With communication guidelines for patients that include the implications of Climate Change on human health and how to take an active role from the co-benefit paradigm.
2. With improvements in our facilities, consumption, and clinical and healthcare practices.

The teams from the different medical and nursing services, together with the climate action team of the organization, analyze their clinical practices and care processes and seek opportunities for improvement both internally and for patients.

Methods

TRAINING AND IMAGE: All actions are framed within the Hippocratic motto "Primum non nocere." Doctors and nurses embody this image. We train our "white coat" professionals on climate change, especially using as a base the concept "co-benefit" and how sustainable actions can have positive impact on their Health. There are two other elements to take into account: on one hand, a thorough explanation of what MútuaTerrassa is doing in terms of its decarbonization strategy and, on the other, training professionals in specific skills for engaging with patients.

IT RESOURCES: Digital communication resources are used to create a relationship with the patient and inform them about

more sustainable alternatives when interacting with the institution.

HEALTH RESEARCH AND CLIMATE CHANGE: Thanks to the Health and Climate Change Chair signed by the University of Barcelona and MútuaTerrassa, research teams are established to study how climate change affects specific elements of human health.

Results

Although we have launched several projects, we present some of the most relevant ones: Our 1976's hospital is going to be refurbished improving its energy efficiency and ending with the covering of the façade with solar panels. We recover expired material from the Hospital to be used in the simulation area, a risk-free space, reducing the amount of stock needed to be purchased for residents, nursing and medical students training. We initiated a dual project focused on the recovery of waste generated during surgical procedures and subsequent hospitalization, recycling clean packaging resulting from the use of medical supplies in clinical practices, both plastic and paper or cardboard. Thanks to this project, waste collection and management system has been created and implemented in all the hospital. We have launched an SMS system where each patient scheduled to visit outpatient service receives information on public transport alternatives and active mobility, along with its benefits. An agreement was signed between MútuaTerrassa and the University of Barcelona for the creation of the new Chair of Health and Climate Change, with the objective of deepening the understanding of the impact that climate change has on people's health. Under this context we have started different studies.

Conclusion

The healthcare sector is on the front line addressing the health impact caused by environmental degradation and climate change, while also positioning itself as one of the sectors with the greatest impact on the planet in terms of greenhouse gas emissions, particularly due to its high energy consumption and significant plastic use. As entities responsible for safeguarding people's health, healthcare organizations must lead the ecological transition and the fight against climate change, while also serving as a driving force for raising awareness and inspiring our patients and citizens to take collective action to mitigate the effects that stem from it.

Conflicts of interest related to this abstract: None

P-3045

Sustainable Resource and Waste Management in Healthcare: Results and Challenges

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Introduction

Sustainability in the healthcare sector is a global challenge, as it is one of the largest consumers of resources and producers of waste. Lusíadas Health Group (LHG) recognized this fragility as an opportunity to establish sustainability as a strategic pillar, aligning priorities with the Sustainable Development Goals – quality healthcare, dignified employment and economic growth, and reducing inequalities. In collaboration with our stakeholders, we identified key focus areas aligned with international guidelines, reinforcing our commitment to environmental, social, and governance (ESG) principles. LHG developed a structured framework, implementing tools and actions to standard-

ize practices and ensure daily decision-making aligns with strategic objectives and available resources. This initiative began in 2021, focusing on Hospital Lusíadas Lisboa (HLL) as the largest facility in the group, with the highest number of employees. Engaging this unit was essential to driving impact and ensuring broader organizational commitment.

Aim/Objective(s)

This strategic project aims to reduce the environmental impact of our operations. Data analysis on resource consumption and waste generation highlighted numerous opportunities for improvement, leading to a cross-functional approach to best practices. While ambitious in creating synergies across LHG units, the project has successfully reinforced social responsibility, leadership commitment, and environmental awareness. The ISO 14001 certification of Hospital Lusíadas Lisboa by an external entity marks a milestone in our continuous improvement efforts, ensuring optimized waste management and more efficient resource consumption while maintaining financial sustainability. At a corporate level, LHG's long-term goal is to develop a robust, phased sustainability strategy. The next steps include extending the environmental certification process to two additional hospitals, reinforcing our commitment to sustainability across the entire organization.

Methods

LHG's environmental strategy follows a structured methodology to identify and manage environmental aspects related to healthcare operations. This multidisciplinary approach involves Quality and Patient Safety teams, Facility Management, Clinical Engineering, Logistics, Construction, and operational teams. At HLL, strategic actions were defined with senior leadership to integrate environmental responsibility into organizational culture. Since 2021, we have implemented monitoring and reporting of key indicators, training programs, and the appointment of "Sustainability Ambassadors." These ambassadors act as operational liaisons for environmental management, receiving both in-person and digital training. Other measures included incorporating environmental criteria in supplier selection, optimizing logistics, and replacing materials and equipment with more sustainable alternatives. Notable projects include the installation of solar panels to transition toward green energy and the automation of water and lighting systems to improve efficiency.

Results

Since 2021, significant progress were made in resource consumption and waste management, countering the expected increase due to rising hospital activity. Each year, we redefined our targets, setting more ambitious goals to drive efficiency and sustainability. Employees demonstrated strong engagement digitally signing our Sustainability Commitment Charter.

- Water consumption: Achieved consistent reduction of 0.03m³ per inpatient-day, surpassing targets. This was driven by installing automatic faucets, efficient showerheads, flow-regulated taps in common areas and consultation rooms.
- Energy consumption: In 2022–2023, we achieved significant reductions, but 2024 posed new challenges, stabilizing at 0.013 toe per inpatient-day. Despite meeting previous years' targets, we set more ambitious goals, replacing equipment, upgrading to A+ efficiency showers, installing motion sensor lighting in hospital corridors.
- Recycled waste: Increased from 6.5% to 9.6% over three years. Initiatives included revising recycling signage, launching an educational video campaign, and providing hands-on training through Sustainability Ambassadors.
- Hospital waste: Since 2022, biological risk waste (Group III) decreased to 1.34 kg per inpatient-day, exceeding targets.

Specific risk waste (Group IV) met goals in 2022 but remained stable at 0.11 kg per inpatient-day in subsequent years. Despite rising hospital activity, this stability reflects success of staff training and awareness programs in preventing unnecessary waste.

Conclusion

The strategic decision to achieve environmental certification at HLL has proven essential in building a strong sustainability framework, delivering significant benefits that serve as a model for standardizing best practices across Lusíadas Health Group. In 2025, this initiative will expand to Braga and Porto hospitals, further enhancing our environmental impact reduction strategies. By aligning actions and indicators across the group, we can systematically assess resource consumption and waste management, identifying improvement areas with greater precision. While initial efforts focused on implementation, consolidation, and awareness, in 2025, we will launch a structured process to quantify the financial benefits of sustainability efforts. This will reinforce the group's financial sustainability by demonstrating how environmental impact reduction – especially proper waste segregation – can generate cost savings. Understanding these financial benefits will support the reallocation of resources to other strategic ESG initiatives. Key challenges remain, including greater engagement of medical teams and maintaining balance in specific risk waste management (Group IV). Additionally, the projected increase in hospital activity will require heightened vigilance to control resource consumption and waste production. Despite these challenges, this model positions Lusíadas Health Group as a more efficient, responsible, and environmentally conscious healthcare system, setting a benchmark for sustainability in the sector.

Conflicts of interest related to this abstract: None

P-3046

The Ecological Transition Charter and the 2024–2028 action plan for Norman hospitals and medico-social structures

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Introduction

Normandy's greenhouse gas emissions are estimated at 12 million tonnes of CO₂ equivalent per year (6% of French metropolitan production, which is 406 Mt in 2021). Emissions from the health sector alone are estimated at 1 million tonnes for the Normandy health sector. To meet the national reduction target of 5% per year, the health sector in Normandy must therefore reduce its emissions by around 50,000 teqCO₂ per year, i.e. a cumulative reduction of 350,000 teqCO₂ by 2030. Since the ecological transition must be global, the establishments are also setting shared and managed regenerative objectives in terms of: waste production and treatment, water and air pollution, health prevention and adaptation of structures to climate and environmental change.

Aim/Objective(s)

Beyond their contribution to the actions and methods necessary for the Ecological Transition within the framework of the PRS 2023–2028, the health and medico-social establishments of the FHF Normandie wish, like what the Regional Health Agency (ARS) is implementing in its version of the Regional Health Project (PRS), to break down the ecological transition

program of Norman public health establishments into quantifiable objectives and actions to be carried out.

This program takes the form of a Charter and Action Plans on which the Norman health and medico-social establishments are registered for 5 years, i.e. from 2024 to 2028.

Methods

The following chapters constitute the action program:

1. A quantified general objective of reducing the carbon and environmental footprint
2. Establishment of operational governance
3. Training of stakeholders
4. Reduction of the consumption of medicines, pharmaceutical products and medical devices through the eco-design of care
5. A healthy and suitable diet
6. Structuring of responsible purchasing policies
7. Reduction of energy consumption
8. Reduction of water consumption (drinking, rainwater)
9. Development of sustainable mobility alternatives to the individual thermal car
10. Optimization of waste management
11. Improvement of indoor air quality and discharges (wastewater, smoke, etc.)
12. Fair use of digital technology
13. Awareness-raising and even education of users
14. Development of ecological prevention
15. Adaptation of structures to global warming and the consequences on the environment
16. Biodiversity

It is a collective commitment of Normandy establishments and the action plan makes it possible to quantify and follow the results.

Results

After 6 months of implementation, an initial assessment of the application of the Charter and its Action Plan was carried out with the group of Ecological Transition referents of the establishments. Overall, 32% of the objectives have been achieved. 24% are in progress, 25% will start and 19% have not yet been taken into account.

Major results in 2024:

- Creation of a BGES
- Project mode governance
- Ecological Transition Project integrated into the establishment project
- Establishment of cross-functional working groups – Green Block
- Declaration on the “macantine.gouv” website
- Valorization of biowaste
- Energy audit and other consumables before the end of 2024 (Energy measurement/monitoring tool / Ecogestes + Pooling)
- Carpooling solution systematically offered to agents
- Sustainable mobility packages awarded from 2024

Conclusion

The ecological transformation of healthcare facilities requires a clear commitment from stakeholders, training at all levels (management, agents, users, partners) and a structured and monitored action plan. The effort made in Normandy, framed by our Charter, is real and substantial but requires a continuous and constant effort, particularly in times of budgetary tensions. Collective action brings together energies at the regional level, strengthens skills and helps maintain the momentum that can materialize over time

Conflicts of interest related to this abstract: None

P-3047

The Essential Role of Mail and Document Services in Financial Crisis Management and Green Initiatives

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Introduction

The financial crisis creates economic instability that hampers institutions' ability to manage financial resources effectively, often stemming from declining revenues or rising costs. In the aftermath of the oil price crisis in late 2014 and early 2015, the postal and document department significantly aided the Royal Hospital, in reducing administrative and office supply expenses. This department is crucial for managing information flow between various internal and external entities. Given the challenges of quick information access, data security, and quality maintenance, developing effective strategies for managing postal and document processes is essential. Initiatives like green hospitals further enhance this approach by promoting sustainability and reducing waste and energy consumption in healthcare settings. This project will explore the importance of the Mail and document department, its challenges, and best practices for effective management, reducing costs and initiating green hospital project.

Aim/Objective(s)

The financial crisis creates economic instability that hampers institutions' ability to manage financial resources effectively, often stemming from declining revenues or rising costs. In the aftermath of the oil price crisis in late 2014 and early 2015, the postal and document department significantly aided the Royal Hospital, in reducing administrative and office supply expenses. This department is crucial for managing information flow between various internal and external entities. Given the challenges of quick information access, data security, and quality maintenance, developing effective strategies for managing postal and document processes is essential. Initiatives like green hospitals further enhance this approach by promoting sustainability and reducing waste and energy consumption in healthcare settings. This project will explore the importance of the Mail and document department, its challenges, and best practices for effective management, reducing costs and initiating green hospital project.

Methods

In response to the oil crisis of late 2014 and early 2015, the postal and documentation department implemented reforms to reduce costs and enhance efficiency. By transitioning to electronic document management and activating the Albarwa electronic system for communication and mail, the department aimed to eliminate a significant volume of paper correspondence and personal items, which constituted 90% of received parcels. This shift minimized printing and reduced reliance on physical stationery while supporting the green hospitals project. Cessation of mail services with Oman Post streamlined operations, further reducing transportation costs. Additionally, manpower was optimized and reallocated to other services, enhancing overall productivity. The new approach enabled accurate tracking through registered emails and improved distribution methods. These changes illustrate that smaller departments can drive significant change, proving essential in navigating financial challenges while promoting sustainability in hospital operations.

Results

The digital transformation application in the mail and documentation services significantly enhances administrative performance and increases accuracy and speed in document processing, leading to improved productivity.

Key achievements include:

- The expenses were reduced, where they amounted to 24,657 Omani riyals/64270.52 \$ in 2014, while in 2024 they reached 7,222 Omani riyals/18824.74 \$.
- Significant reduction in paper transactions since 2019, eliminating annual costs associated with paper form usage.
- Discontinuation of postage stamps, saving 600 Omani Rials (approximately \$1,560) yearly.
- Stopping transportation for correspondence, cutting costs by around 5000 Omani Rials (approximately \$13,000) annually.
- Transitioning financial claims to electronic communication with pertinent departments.
- Reducing staff by retraining and reallocating employees to administrative roles.
- Encouraging employees to avoid personal use of the government mailbox.
- using an electronic program for government hospitals for mail and communication.
- Enhancing document retrieval speed and organization.
- Lowering operational costs through reduced paper, printing, and resource needs.

Year	File Quantity	Cost OR/\$
2014	4000	1500/3900 USD
2015	3000	1000/2600 USD
2016	2500	850/2210 USD
2017	2144	508/1310.80 USD
2018	1500	422/1097.20 USD
2019	1125	189/491.40 USD
2020	1000	155/403 USD
2021	700	137/356.20 USD
2022	600	130/338 USD
2023	400	75/195 USD
2024	150	40/104 USD

Conclusion

Financial crises present significant challenges but can also offer opportunities for organizations to reassess their financial strategies and enhance their resilience. While these crises are inevitable, effective management and planning can mitigate their effects and turn them into valuable learning opportunities. The mail and document services play a vital role in boosting administrative efficiency and organizing processes, especially during financial downturns. Proper document management minimizes costs and improves inter-departmental communication while safeguarding sensitive data, thereby enhancing transparency and compliance with legal regulations. These services ensure the effective organization of official correspondence, both within the organization and with external entities. In times of crisis, optimizing mail and document services becomes essential for adapting to evolving economic conditions. By leveraging technology and digital systems, organizations can reduce reliance on paper, saving time and resources. Thus, the mail and document services act as a crucial tool for achieving operational efficiency and sustainability. Investing in these services aligns with the organization's broader strategic objectives, ultimately improving internal communication and work quality. Through this approach, organizations can not only navigate challenges effectively but also build a robust foundation for future success.

Conflicts of interest related to this abstract: None

P-3049

Upcycling Non-Woven Fabric: Innovation, Design, and Valorization

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Introduction

Hospitals are significant producers of waste, which notably affects their environmental footprint. According to the World Health Organization (WHO), they generate 5 million tons of waste annually. For this reason, it is crucial to prioritize reducing the ecological footprint in healthcare institutions by implementing more sustainable practices, such as recycling and the use of reusable materials. Emphasis should be placed on the circular economy model to reduce and valorize waste, challenging the traditional linear economic model based on the "produce – use – dispose" principle, which remains deeply embedded in healthcare services. To mitigate the environmental impact of the healthcare sector, a different approach is necessary – one that implements sustainable changes.

Aim/Objective(s)

Currently, the practice of producing, using, and discarding materials is prevalent, highlighting the urgent need to counter this ingrained mindset.

Methods

To implement this project, it was necessary to directly observe the amount of non-woven fabric discarded daily from the operating rooms and assess the associated costs – both in acquisition and waste treatment. A SWOT analysis was conducted, considering the strengths, weaknesses, opportunities, and threats. Based on this, six phases were outlined for the project: prototype creation (1); non-woven fabric collection (2); sending it to the sewing workshop (3); production (4); marking with the Green working group's logo (5); and finally, distribution of the items to services (6).

Results

This project was launched on June 5, 2024, aligning with World Environment Day. It has had a considerable impact on the institution:

To date, 116 kg of non-woven fabric have been upcycled, preventing the emission of 348 kg of CO₂ into the atmosphere.

From this material, 2,384 items have been produced, including:

- 1,704 envelopes in sizes S, M, and L
- 26 aprons for patient care
- 654 bags of various sizes

Conclusion

With the implementation of this project, EDVLHU aimed to challenge the disposable culture and promote alternatives for reusing and repurposing materials such as non-woven fabric (TNT). The fabric's life was extended by creating various items for use within the institution, contributing to a significant reduction in waste and discarded materials. This initiative also demonstrated that it is possible to integrate sustainable practices into the institution's daily operations, yielding both environmental and economic benefits. EDVLHU reinforces its commitment to environmental advocacy and the continuous improvement of its practices, serving as an inspiring model for future generations. The success of this project was only achievable thanks to the dedication and hard work of the institution's environmental sustainability working group, who successfully implemented innovative measures to reduce environmental impact, emphasizing

the importance of adopting a proactive and collaborative approach to finding sustainable and innovative solutions.

Conflicts of interest related to this abstract: None

P-3050

VerdeVida: A behavioral and sustainability-driven approach to reducing food waste, promoting health, and fostering low-carbon resilience in urban communities

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Introduction

The intersection of non-communicable diseases (NCDs), climate change, and healthcare sustainability is a major global challenge. The health sector accounts for nearly 5% of global carbon emissions, largely driven by the increasing burden of preventable NCDs such as obesity, diabetes, and cardiovascular diseases, which are rising among younger populations due to poor nutrition and physical inactivity. At the same time, food-waste contributes up to 10% of global greenhouse gas emissions, while urban environments with limited access to healthy food and safe spaces for physical activity exacerbate these issues. In Colombia, the ENSIN Survey reports that three out of four adolescents do not consume fruits and vegetables regularly, one in five is overweight, and most spend over two hours daily on screens. VerdeVida integrates behavioral science, sustainable food strategies, and active living promotion to reduce NCD risk, minimize food-waste, and strengthen urban health system resilience, supporting a low-carbon healthcare transition.

General Objective: To reduce the carbon footprint associated with food waste and prevent non-communicable diseases (NCDs) among vulnerable girls and adolescents through a behavioral change-based strategy that promotes healthy lifestyles, sustainability, and resource optimization in urban environments.

Specific Objectives:

1. Minimize food waste-related carbon emissions by implementing sustainable food practices, conscious consumption, and waste reduction strategies in urban settings.
2. Empower girls and adolescents by engaging them in the creation, management, and maintenance of urban gardens, fostering leadership and environmental responsibility.
3. Develop a behavioral change strategy to increase fruit and vegetable consumption and promote physical activity, addressing both public health and environmental sustainability.
4. Evaluate behavioral changes in dietary habits and physical activity to assess the intervention's impact and long-term sustainability.

Methods

VerdeVida follows an Implementation Science-based mixed-methods design across four phases: diagnosis, intervention design, implementation, and evaluation. The study includes 200 girls and adolescents (5-17 years). Baseline assessments measured food waste, anthropometrics (*weight, height, BMI-for-age, skinfold thickness, seated height, and waist circumference*), physical fitness (*Eurofit for 9-17 years, modified for 5-8 years*), and behavioral determinants (COM-B model). Focus groups were conducted to identify determinants of food consumption and participants' food experience, providing insights into motivations, barriers, and opportunities for behavioral change. Intervention co-design involved teachers, counselors, and adolescents, applying APEASE criteria to prioritize actions.

The validated strategy integrates urban gardening, behavioral nudges, and structured physical activity. The study is currently in the implementation phase, integrating validated interventions into daily routines. Midterm data collection is assessing adoption, adherence, and behavioral changes, informing adjustments to ensure long-term impact. A longitudinal evaluation framework measures effectiveness and sustainability, supporting a low-carbon, resilient healthcare transition.

Results

As VerdeVida is in its early implementation phase, initial findings derive from baseline assessments and intervention co-design processes.

Baseline Findings:

- Low fruit and vegetable consumption: 76% of participants did not meet daily intake recommendations.
- Sedentary behaviors: 82% spent over two hours daily on screens, with limited engagement in structured physical activity.
- High food waste: Plate waste observations showed that 35% of served food was discarded.
- Limited awareness of food sustainability: 67% of participants lacked knowledge about the environmental impact of food waste.

Intervention Co-Design Outcomes:

- Focus groups with participants, teachers, and counselors identified key determinants of food choices, including taste, parental influence, and availability.
- The APEASE criteria guided the selection of interventions, emphasizing practicality and acceptability within the school environment.
- Urban gardening activities were well received, fostering engagement and sustainability awareness.
- Opportunities for integrating movement-based learning into daily routines were identified to increase physical activity levels.

Currently, midterm data collection is assessing adoption, adherence, and behavioral changes. At the end of the intervention, a comprehensive evaluation will measure effectiveness in improving dietary habits, increasing physical activity, reducing food waste, and enhancing sustainability awareness, contributing to a low-carbon, resilient healthcare transition.

Conclusion

VerdeVida highlights the potential of integrating health promotion, sustainability, and climate resilience into a unified intervention to reduce food waste, prevent non-communicable diseases (NCDs), and enhance healthcare system sustainability.

Key Insights from Baseline and Co-Design Phases:

- Poor dietary habits and sedentary lifestyles remain prevalent, highlighting the need for structured, behavior-based interventions.
- Food waste reduction strategies must be integrated with education on sustainability and conscious consumption.
- Community-driven approaches increase engagement and adherence, ensuring long-term sustainability.

Expected Outcomes by the End of the Intervention:

- Increased fruit and vegetable consumption and higher physical activity levels, reducing NCD risk factors.
- Reduced food waste through improved awareness and sustainable eating habits.
- Stronger environmental and health literacy, fostering a long-term low-carbon lifestyle among participants.
- A scalable, evidence-based model for integrating sustainability into preventive healthcare strategies.
- By aligning with global net-zero healthcare goals, VerdeVida offers a replicable and adaptable intervention that can

be expanded to other urban settings, contributing to resilient, low-carbon health systems. Future evaluations will measure the intervention's effectiveness and potential for policy integration.

Conflicts of interest related to this abstract: The project was financed by Novo Nordisk

P-3051

Zero impact hospital

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Introduction

The healthcare system of Western countries has a significant impact in terms of resource utilization, energy consumption, emissions and waste generation, so much so that the UN has included the environmental sustainability of healthcare systems among the seven priority areas to protect health and the environment. Recognizing the importance of human well-being, it is no longer enough to analyze the effects of the environment on human health; it is now essential to examine the impact of the healthcare system has on the environment. This matter forms the basis of the "zero impact hospital" project of the San Carlo Regional Hospital Company. This is a systemic vision integrating a triple bottom line (socio-health, economic, and environmental sustainability) into all decision-making processes.

Aim/Objective(s)

In recent years, the Hospital Company has adopted Lean Construction techniques and a LEED (Leadership in Energy and Environmental Design) protocol, to develop and implement a model for minimizing the hospital's environmental footprint, to make new buildings more sustainable and create a completely green hospital. This approach aims to optimize costs and reduce waste, through energy and water savings, CO₂ emissions and improved ecological quality of materials.

Specific actions include:

- reducing energy and water consumption through thermal insulation, environmental monitoring, the use of low-consumption technologies and rainwater recovery systems;
- reducing emissions through waste and noise reduction, and the implementation of energy production systems from renewable sources, and improving the quality of materials;
- integrating the hospital, as a place of health, with green areas and the surrounding environment.

Methods

The zero-impact hospital approach considers all organizational elements: resources (input), health processes and pathways (internal environment), health services (output). Resource optimization includes installed photovoltaic systems (168 tonnes of oil equivalent saved), a large cogeneration plant under construction (1196 tonnes of oil equivalent saved), and a planned biogas production system from food waste. Internal environment improvements involve balancing service needs with resource efficiency, including new LEED-certified pavilions, up-graded building envelopes, to optimize internal processes. Health service delivery methods also contribute to environmental impact reduction: the introduction of telemedicine for check-ups, for example, offers social and economic benefits while reducing travel-related emissions.

Results

Implemented sustainability actions have yielded several results, including:

- installation of photovoltaic panels on two parking areas for a module surface area of approximately 4.000 square meters and a total power of approximately 705 kW;
- installation of photovoltaic panels on connecting walkways between the various structures of the complex;
- design, with imminent construction planned, of a thermal and electrical energy cogeneration plant, with a thermal power of over 30.000 kW. The thermal generators installed in the current thermal power plant, however, are recently produced and guarantee reduced consumption compared to the old pre-existing systems;
- use of digital lighting control systems, high-efficiency and low-consumption lighting fixtures and elements, building automation systems, and plant and environment monitoring systems;
- walls and roofs of the new pavilions and recently constructed buildings are thermally insulated and equipped with highly insulating window frames;
- thermal insulation of the infill walls and roofs in addition to the use of insulating frames;
- implementation of policies for rationalizing and optimizing internal temperatures in relation to the intended use of the rooms and the times of use.

Conclusion

The results obtained, considering the interventions and energy policies implemented so far, are reflected in a significant reduction in the historical consumption of energy vectors, estimated between 20% and 30%, even with an increase in healthcare activities provided within the hospital complexes. The progressive implementation of the project will naturally lead to further tangible benefits. The "zero impact hospital" project is ultimately based on the belief that the healthcare system can also contribute to improving life because – to use Hemingway's words – "the world is a beautiful place and it is worth fighting for".

Conflicts of interest related to this abstract: None

P-3052

Hospital Waste Reduction as a Strategy for a Sustainable Future

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Introduction

The generation of waste in the healthcare sector represents a major environmental challenge, impacting soil and water, as well as generating high final disposal costs. Hospitals produce large volumes of waste, most of which is hazardous and, after treatment, is sent to landfills, increasing the environmental footprint. HCor has joined the Circular Connection movement, committing to eliminating landfill waste disposal by 2030. To achieve this, it has adopted a strategy based on environmental education and a review of operational processes, reducing waste generation per patient/day and prioritizing sustainable alternatives. This article presents the methodology, the results achieved, and discusses the implications of this experience for the hospital sector, demonstrating how healthcare institutions can contribute to the Sustainable Development Goals, particularly SDG 12, which focuses on Responsible Consumption and Production.

Aim/Objective(s)

To present the results of an integrated strategy for hospital waste reduction, emphasizing two main pillars: environmental education and process review. The objective was to reduce waste generation per patient/day and minimize landfill disposal,

promoting more sustainable practices in the hospital environment. The strategy involved the active participation of healthcare professionals and patients in actions aimed at mitigating the environmental impact of hospital activities. The implemented actions are aligned with the goal of eliminating landfill waste disposal by 2030.

Methods

HCor's strategy for reducing hospital waste and minimizing landfill disposal is based on two key pillars: environmental education and the review of operational processes. Environmental Education: Continuous and comprehensive training programs were developed and implemented, covering waste management, conscious consumption, and climate change. Internal campaigns were also conducted to reduce waste, including food and disposable materials. Additionally, educational initiatives were carried out with patients. Process Review: Waste flow mapping was conducted to identify improvement opportunities and review classifications, allowing for the adoption of reverse logistics, recycling, and composting through enhanced waste segregation. Composting efforts were expanded, and disposable packaging was replaced with reusable alternatives. Evaluation Indicators: The impact of these actions was monitored through two key indicators: waste generated per patient/day and waste by risk classification, assessing effectiveness and enabling adjustments to interventions.

Results

The integrated implementation of the pillars of environmental education and process review has led to significant and measurable progress for HCor, both in terms of environmental sustainability and operational efficiency. The following results were recorded in 2024, two years after the implementation of ABNT NBR ISO 14001:

- Reduction in Waste Generation: HCor achieved a 3.93% reduction in waste generation per patient/day, despite a 4.31% increase in the number of patients and a 6.4% rise in the number of surgeries performed.
- Reduction in Landfill Waste: The amount of waste sent to landfills decreased by 8.10%, standing out even amid the growth in hospital activities.
- Increase in Composting and Recycling: Organic waste composting increased by 14%, and recycling grew by 11%, generating revenue of R\$ 237,803.00 for HCor's free-care programs.
- Cultural Transformation: HCor has distinguished itself in the healthcare sector through sustainable practices, fostering engagement among employees and patients. This effort resulted in an improvement in the environmental compliance indicator, which rose from 80% to 94%.
- Operational Efficiency: Process reviews have enhanced operational efficiency, allowing for increased service capacity without a proportional rise in environmental impact.

Conclusion

Hcor's case exemplifies how healthcare institutions can move towards more sustainable operational models by integrating circular economy principles and aligning with global environmental objectives. The approach based on environmental education and process review has proven effective in reducing waste generation per patient/day and decreasing landfill-bound materials, even in a context of operational growth. This experience provides valuable lessons for the healthcare sector and other industries interested in sustainable practices. Key takeaways include the importance of an integrated approach that combines education and awareness with concrete operational interventions, as well as the need to engage all stakeholders in the transformation process. By joining the Circular Connection movement and aligning with SDG 12, Hcor demonstrates that healthcare institutions can go beyond their fundamental role in

promoting human health and significantly contribute to environmental sustainability. This integrated vision, which recognizes the interdependence between human well-being and ecological balance, represents a transformative model for the healthcare sector and an inspiration for organizations committed to a more sustainable future.

Conflicts of interest related to this abstract: None

P-3053

Hospitals Going Green: Wastewater Recycling & Sustainable Landscaping

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Introduction

Water scarcity is a growing global concern, particularly in arid regions like Riyadh, where sustainable water management is crucial. Hospitals, as major water consumers, contribute significantly to water usage and waste. In response, healthcare facilities are adopting innovative strategies to optimize resource use and minimize environmental impact. Huraymila General Hospital, a 100-bed facility under the Riyadh Third Health Cluster, recognizes the need for sustainable water conservation practices. Given the region's climate, efficient water management is essential to maintain green spaces while reducing unnecessary water waste. Traditional irrigation methods consume large amounts of water, prompting the hospital to implement a wastewater recycling initiative for garden irrigation. By repurposing leftover drinking water and planting drought-resistant trees, the hospital aligns with Saudi Arabia's sustainability goals and contributes to eco-friendly healthcare practices. This initiative enhances environmental stewardship while ensuring a sustainable and aesthetically pleasing hospital environment.

Aim/Objective(s)

Objectives of the Project:

1. Reduce water waste by recycling unused drinking water for irrigation.
2. Promote sustainable landscaping by planting water-efficient trees.
3. Enhance environmental responsibility within the hospital.
4. Support national sustainability goals in healthcare operations.

Methodology

This project utilized a sustainable water recycling approach to optimize hospital wastewater management for garden irrigation. Huraymila General Hospital operates a sewage treatment plant equipped with special filters, allowing treated water to be safely reused for landscape irrigation. In addition, housekeepers were instructed to collect leftover drinking water in designated storage tanks instead of discarding it, further reducing water waste. The operations department implemented a landscaping strategy focused on planting drought-resistant trees that require minimal water and are well-suited to the local environment.

Data Collection & Analysis:

- Participants: Hospital housekeeping and operations teams.
- Sampling: Observational monitoring of water collection and tree survival rates.
- Tools: Water filtration systems, storage tanks, and environmental assessment checklists.
- Analysis: Water conservation impact measured through monthly water usage reports and garden sustainability assessments.

Results

The implementation of wastewater recycling at Huraymila General Hospital has significantly improved water conservation for garden irrigation. Through the sewage treatment plant with special filters, approximately 60% of treated wastewater was successfully reused, reducing reliance on freshwater sources.

Additionally, the initiative to collect leftover drinking water from hospital staff and patients resulted in an estimated 400–500 liters per month being redirected to irrigation instead of being wasted. Housekeeping staff compliance reached 95%, ensuring consistent water collection and utilization. The landscaping strategy, which involved planting drought-resistant trees suited to the Riyadh climate, led to a 30% reduction in overall garden water consumption compared to previous irrigation methods. The trees demonstrated high survival rates (above 90%), confirming their suitability for the environment. Data from monthly water usage reports and garden sustainability assessments indicated a measurable decrease in water waste and improved efficiency in hospital landscaping. This project not only reduced water consumption but also contributed to a greener hospital environment, demonstrating the feasibility of sustainable water management in healthcare facilities. The findings highlight the success of integrating wastewater treatment, drinking water collection, and eco-friendly landscaping, making it a scalable model for other hospitals in water-scarce regions.

Conclusion

The wastewater recycling initiative at Huraymila General Hospital has successfully demonstrated how hospitals can implement sustainable water management to address water scarcity while maintaining green spaces. By integrating a sewage treatment plant with special filters, repurposing leftover drinking water, and planting drought-resistant trees, the hospital achieved a significant reduction in water waste and irrigation demands. This initiative directly enhances healthcare service sustainability by optimizing resource use, reducing operational costs, and creating a healthier hospital environment with improved green spaces. Research has shown that greener environments contribute to better patient recovery, staff well-being, and overall hospital aesthetics, making this project beneficial beyond water conservation. From a policy and practice perspective, this model can be scaled and adopted by other hospitals within the Riyadh Third Health Cluster and beyond. It provides a practical, low-cost, and replicable framework for integrating wastewater reuse into healthcare operations, aligning with Saudi Arabia's national sustainability goals. Future research can build upon these findings by assessing long-term environmental impact, patient and staff satisfaction, and cost-effectiveness. This project highlights the potential of sustainable practices in healthcare, encouraging policymakers and hospital administrators to prioritize eco-friendly innovations in hospital management.

Conflicts of interest related to this abstract: none

P-3054

"Sustainable and cost-effective Solution at Mediclinic Middle East: Implementing Waste Compactors, Segregation Rooms, and Reusable Cup Initiatives"

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Introduction

Many small steps reduce the distance to the goal of sustainability and resilience in healthcare operations. These steps should be rational, cost-effective, and reproducible to be implemented in different settings.

Mediclinic Middle East (MCME) has implemented several initiatives to enhance sustainability and resilience in its operations. Key measures include:

- Diverting landfill waste towards recycling: This helps reduce the environmental footprint and promotes recycling.
- Optimizing waste management processes: Using compactors to reduce waste volume and minimizing the frequency of waste collection.
- Increasing bins dedicated to recyclable waste: Reducing general waste bins has created space for more bins dedicated to recyclable waste, further supporting their commitment to environmental stewardship.

To address the challenges posed by climate change, these efforts demonstrate a proactive approach to reducing environmental impact while improving operational efficiency. These projects were carried out to achieve standards for sustainable hospitals and to support resilient and low-carbon healthcare provision.

Aim/Objective(s)

1. Zero Waste to Landfill by 2050
2. Reduction of Carbon Emission to become achieve neutral by 2050

Methods

Among multiple innovative practices implemented at Mediclinic Middle East (MCME) with a vision to reach net zero in our healthcare ecosystem, we hereby present three practices with promising results.

1. **Introduction of Compactors:**
2. Compacting technology was introduced to reduce the volume of general waste, significantly optimizing waste collection processes and reducing transportation frequency and ultimately saving a significant cost.
3. **Enhanced Waste Segregation:**
4. Waste segregation practices were improved by establishing dedicated waste segregation rooms. While staff education and awareness programs on source segregation were already in place, additional focus on final-stage segregation
5. **Reduction of Single-Use Items:**
6. Efforts were made to minimize the use of single-use paper cups across the facility with provision of reusable water tumblers and ceramic mugs for staff and bamboo cups for patients and patient attendants at in house coffee outlets.

Results

1. **Introduction of Compactors:** Outcomes were measured by the reduction per week in waste volume, transportation frequency, bin washing frequency and cost effectiveness of installation of a compacter at each site. The intervention was cost effective along with 80% waste volume reduction, 50% transportation frequency reduction and 60% bin washing frequency reduction.
2. **Enhanced Waste Segregation:** Establishing dedicated waste segregation rooms was a cost-effective intervention with rebate from recyclable waste. The compacter installation provided us more space for this intervention. Final-stage segregation improved the efficiency for recycling. It can be used as additional practice along with staff education and awareness programs on source segregation.
3. **Reduction of Single-Use Items:** Single-use paper cups form the major chunk of waste. Provision of reusable water tumblers and ceramic mugs for staff was cost effective and reproducible to instill a sense of sustainability among the staff. Patients and visitors were encouraged to use bamboo cups available at in-house coffee outlets, such as Dêlê Café and Costa Coffee. These reusable cups, priced at AED 15 (US dollar price equivalent), offered an added benefit of a 20% discount on future coffee purchases when brought back for reuse.

Conclusion

Sustainability in healthcare is critical for ensuring the long-term ability of health systems to provide quality care while minimizing their environmental footprint. The healthcare sector is a significant contributor to global carbon emissions, waste generation, and resource consumption. By adopting sustainable practices, healthcare facilities can reduce their environmental impact, improve operational efficiency, and lower costs. These combined measures aim to enhance operational sustainability, reduce waste generation, and promote a culture of environmental responsibility among staff, patients, and visitors. The cost of compacter installation was cross-tabulated with the direct and indirect benefits of waste reduction, space allocation, water and washing consumption, and reduction in waste transportation frequency. Cumulatively, these efforts resulted in:

- 80% waste volume reduction
- 50% transportation frequency reduction
- 60% bin washing frequency reduction

These improvements enhanced sustainability and reduced costs at MCME. The additional space and reduced waste volume facilitated the setup of a final segregation room at each facility and additional bins for difficult-to-segregate waste. The rebate value for recyclable waste covered the cost of the additional segregation room. Furthermore, the cost reduction from replacing single-use paper cups with ceramic mugs and water tumblers surpassed the initial investment within a year.

Conflicts of interest related to this abstract: None

P-3055

IMPLEMENTING ISO 22301:2019 BUSINESS CONTINUITY MANAGEMENT SYSTEMS IN HEALTHCARE: A GLOBAL IMPERATIVE FOR RESILIENT PATIENT CARE

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Introduction

With the increasing threats of natural disasters, pandemics, and cyberattacks, healthcare resilience is no longer optional but essential. Implementing Business Continuity Management Systems (BCMS) aligned with ISO 22301:2019 provides a structured framework for risk identification, impact assessment, and disruption mitigation (ISO, 2019). By ensuring critical healthcare services remain operational during crises, BCMS enhances systematic risk management and response planning. Despite its proven benefits, BCMS adoption in healthcare remains inconsistent, exposing preparedness and response capabilities gaps. This highlights the urgent need for healthcare professionals, policymakers, and leaders to drive standardized BCMS integration, reinforcing global healthcare resilience (Bender, 2021; Palo Alto Networks, n.d.). A universal BCMS framework safeguards patient care and ensures that health systems can withstand future disruptions. To achieve sustainable healthcare resilience, organizations must act now by investing in BCMS implementation, regulatory alignment, and capacity-building efforts.

Aim/Objective(s)

The main objective of this study is to assess the global adoption of Business Continuity Management Systems (BCMS) in healthcare and evaluate its effectiveness in ensuring operational resilience and continuous patient care. To achieve this, the study aims to analyze BCMS implementation across various healthcare settings and examine its impact on service continuity. It seeks to identify key challenges and barriers that hinder BCMS adoption, with a particular focus on the disparities between high-income and low- to middle-income countries. The

research aims to explore best practices and success factors in BCMS adoption through case studies and expert insights. Another key objective is to propose actionable recommendations for policymakers, hospital administrators, and healthcare professionals to promote BCMS standardization, financial investment, and capacity-building initiatives. The study seeks to underscore the significant role of BCMS in mitigating risks related to natural disasters, pandemics, and cyber threats, ensuring uninterrupted healthcare service delivery during crises.

Methods

This study adopts a mixed-method approach, integrating a systematic literature review, case study analysis, and structured expert interviews to evaluate BCMS adoption in healthcare globally. The systematic literature review examines peer-reviewed journals, industry reports, and policy documents to assess BCMS trends, regulatory frameworks, and challenges. The case study analysis explores real-world BCMS applications, including Cytiva, which implemented ISO 22301 across seven production facilities to maintain medicine supply during crises (4C Strategies, 2023), and Sandata Technologies, which achieved BCMS certification to enhance resilience (HITRUST Alliance, 2023). Structured interviews were conducted with BCMS professionals and healthcare executives (purposive sampling) to gather insights on best practices and challenges. Data collection involved document analysis, interviews, and comparative studies, utilizing NVivo for qualitative analysis and SPSS for statistical evaluation. A comparative analysis examines disparities in financial, regulatory, and technological readiness between high-income and low- to middle-income countries to propose policy-driven solutions.

Results

Findings indicate a significant disparity in BCMS adoption, with high-income countries demonstrating more excellent implementation due to regulatory mandates, financial resources, and advanced technological infrastructure. In contrast, low- and middle-income nations face financial and technical barriers, limiting their ability to adopt BCMS effectively. Limited funding, inadequate regulatory frameworks, and a lack of skilled personnel impede widespread implementation, leaving healthcare systems vulnerable to disruptions. The COVID-19 pandemic underscored the critical need for BCMS in Healthcare as organizations struggled to maintain operations, safeguard data, and ensure patient care continuity. A notable example is Simplify Healthcare, which integrated BCMS with cybersecurity measures to mitigate operational disruptions and cyber risks (Simplify Healthcare, 2025). This demonstrates how a structured BCMS approach enhances resilience, protects critical healthcare infrastructure, and strengthens response capabilities. Successful BCMS implementation is often linked to vigorous policy enforcement, leadership commitment, and structured training initiatives. Organizations prioritising compliance with international standards invest in employee training and embed resilience into strategic planning to experience greater regulatory compliance, operational stability, and stakeholder confidence. As global healthcare challenges intensify, the necessity for comprehensive BCMS frameworks becomes increasingly evident, reinforcing the importance of policy-driven adoption, financial investment, and cross-sector collaboration to ensure sustainable healthcare resilience worldwide.

Conclusion

To bridge the BCMS adoption gap, a policy-driven, financially supported, and capacity-building approach is essential. Governments and healthcare regulatory bodies must standardize BCMS requirements, ensuring compliance with ISO 22301:2019 while establishing clear guidelines for implementation. Sustainable funding mechanisms must also be allocated to support

BCMS adoption, particularly in low- and middle-income countries, where financial constraints hinder preparedness efforts. Economic incentives, regulatory enforcement, and institutional support are necessary to encourage healthcare organizations to effectively integrate BCMS into their operations.

Workforce training and development are equally critical, as BCMS's success depends on skilled professionals capable of implementing and maintaining resilience strategies. Healthcare institutions should invest in comprehensive training programs, ensuring leaders, administrators, and frontline workers understand their crisis preparedness and response roles. Furthermore, global partnerships and cross-border collaboration with

the government in each country should be promoted to facilitate knowledge-sharing, exchange of best practices, and coordinated international responses to disruptions.

As healthcare challenges intensify, an integrated BCMS framework becomes indispensable for ensuring healthcare resilience, maintaining patient care continuity, and strengthening global health security. By fostering policy reforms, financial support, and international cooperation, governments and stakeholders can ensure equitable BCMS access, enabling healthcare systems worldwide to withstand and recover from unforeseen crises.

Conflicts of interest related to this abstract: NONE

TRACK 4: DIGITAL TRANSFORMATION AND AI IN CARE AND HOSPITAL OPERATIONS

P-4001

A virtual clinic for patients with Parkinson's Disease

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Introduction

Parkinson's disease is associated with changes in the nervous system, resulting in a wealth of motor (slowness of movement, tremor) and non-motor symptoms (e.g. depressed mood, sleep disorders or memory problems). The disease progresses slowly and, according to current scientific knowledge, only the symptoms can be treated. The treatment of Parkinson's disease usually consists of several elements. In addition to medication, activating therapies in the form of physiotherapy, occupational therapy or speech therapy are also very important. This complex treatment requirement is currently met on an outpatient basis or as part of a multimodal Parkinson's complex treatment as part of inpatient hospital treatment. There are no virtually available treatment options in Germany so far.

Aim/Objective(s)

Three different sites of the Knappschaft Kliniken (Bochum, Bottrop, Recklinghausen) have realized the idea of a digital care model for Parkinson's patients, the Virtual Parkinson's Clinic. The aim is to replace the complex treatment normally associated with a stay in hospital with digital care.

Methods

To implement this innovative concept, a special care contract was drawn up with Knappschaft Bahn See Health Insurance, which includes four weeks of intensive treatment and an optional one-week follow-up treatment, both in a virtual space. Additionally, a virtual program including physiotherapy, occupational therapy, speech therapy, contacts with a movement disorders specialist and a Parkinson Nurse was created in order to implement all therapeutic offers in a virtual space.

Results

The first patients are currently being admitted to this innovative program. So far, we have developed a new strategy to treat Parkinson's patients in virtual space without them having to visit a medical facility in person. This leads to high synergy effects between three different Parkinson's centers in the form of virtual group therapies or team sessions.

Conclusion

This new digital treatment program for Parkinson's patients shows for the first time that it is possible to transfer an in-person

program from one medical institution to a virtual space in three different sites. The clinic group of Knappschaft Kliniken has shown its potential to leverage synergies of medical experts within its company structures. Experiences with patients' acceptance, inclusion of eligible patients and challenges within the virtual therapeutic set-up will show in which way this virtual clinic can be further developed and transferred to other disease entities.

Conflicts of interest related to this abstract: None.

P-4002

AI Revolutionizes Women's Health: A New Era in Obstetrics, Gynecology, and Reproductive medicine: A systematic review

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Introduction

Artificial Intelligence (AI) is increasingly transforming obstetrics, gynecology, and reproductive medicine by enhancing diagnostic accuracy and personalizing patient care. This systematic review aims to evaluate the advancements and impact of AI technologies in these fields, highlighting their potential to improve healthcare delivery and patient outcomes.

Aim/Objective(s)

This systematic review aimed to investigate the applications of artificial intelligence (AI) in obstetrics, gynecology, and reproductive medicine and assess whether AI systems can predict or assess the risk factors for certain outcomes. The review addresses the following questions: (i) What are the specific applications of AI in obstetrics, gynecology, and reproductive medicine? (ii) Are AI systems able to predict or assess risk factors for any of the outcomes? (iii) Are there pathways for AI to be more routinely utilized in clinical settings as a support -aid for decision making? Obstetrics, gynecology, and reproductive medicine are the primary focus of this review. The objectives are to summarize the specific applications of AI in these three disciplines and to identify areas and considerations to propagate AI into more routine and prominent utilization in clinical practice, as well as identify current barriers to this propagation

Methods

An extensive literature search was conducted spanning the years 2010 to 2023, using databases such as PubMed, IEEE xlore, and Web of Science. The search used various combinations of keywords including "artificial intelli-

gence," "Learning machine," "obstetrics," "gynecology," "reproductive medicine. This review adhered to the PRISMA methodology, with research questions formulated using the PICOS framework. The review encompassed studies involving female patients and the application of artificial intelligence (AI) technologies in obstetrics, gynaecology, and reproductive medicine.

Results

The reviewed studies demonstrating the broad range of applications of AI models across different subspecialties in the fields of obstetrics, gynecology, and reproductive health. The use of AI models ranges from diagnostic accuracy and predictive capabilities to personalization of treatment and process optimization. Despite high performance metrics, many studies lack external validation; this raises concerns about generalizability. Additionally High-performing models, such as deep learning and ensemble methods, often lack interpretability, which can limit clinical adoption. Furthermore Combining multiple data types (e.g., ultrasound, electrohysterogram, demographic data) showed promise but also complexity. Sammali et al. (2021), for example, achieved a 93.8% accuracy in predicting embryo implantation success with multi-modal data. However, integrating diverse data sources introduces challenges in data standardization, interpretability, and practical implementation. Even though AI has many potential advantages, it is important to think about the ethical ramifications and the chance that it could exacerbate healthcare inequities by encouraging a reliance on AI-generated algorithms that could put patients at risk.

Conclusion

The integration of AI in obstetrics, gynecology, and reproductive medicine holds significant promise for improving diagnostic accuracy, risk prediction, patient management, and clinical decision-making. While AI technologies offer numerous benefits, addressing challenges related to data quality, model interpretability, clinical integration, and ethical considerations is crucial for their successful implementation.

Conflicts of interest related to this abstract: None

P-4003

AI-Driven Hospital Supply Chains: A Game Changer for Efficiency, Cost and Care

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Introduction

The modern healthcare sector faces an escalating crisis in supply chain management, with inefficiencies contributing to increased operational costs, waste, and compromised patient care. Hospitals worldwide struggle with inventory mismanagement, stockouts, and surplus, leading to financial losses and service disruptions. Artificial Intelligence (AI) has emerged as a transformative force capable of optimizing supply chain operations by predicting demand, automating procurement, and enhancing logistics. Despite the increasing integration of AI in hospital operations, there remains a critical gap in understanding its tangible impact on efficiency, cost reduction, and patient care outcomes. This systematic review synthesizes existing evidence on AI-driven supply chain optimization in hospitals, evaluating its effectiveness and identifying key enablers and barriers to implementation.

Aim/Objective(s)

1. To evaluate the effectiveness of AI in predicting demand and optimizing inventory management in hospitals.
2. To analyze cost savings and financial sustainability resulting from AI-driven supply chain interventions.

3. To identify operational improvements, including reduced stockouts, waste minimization, and streamlined procurement processes.
4. To explore barriers and facilitators influencing the successful implementation of AI in hospital supply chain management.

Methods

A systematic review was conducted following PRISMA guidelines. Databases searched included PubMed, Scopus, Web of Science, IEEE Xplore, and Google Scholar. The search strategy incorporated keywords such as "Artificial Intelligence," "Hospital Supply Chain," "AI in Healthcare Logistics," "Machine Learning in Procurement," and "AI-Driven Inventory Optimization." Peer-reviewed articles published between 2015 and 2024 were included. Studies focusing on AI applications in hospital supply chain, procurement automation, predictive analytics for inventory control and cost reduction strategies were considered. Grey literature, conference proceedings, and industry reports were also reviewed to capture real-world implementations. Eligibility criteria included empirical studies, systematic reviews, and case reports on AI-driven supply chain solutions in hospitals. Studies focusing on general healthcare AI applications without direct relevance to supply chain management were excluded. Data was extracted and Quality assessment was conducted using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist. Thematic synthesis was employed to categorize findings into key impact areas.

Results

A total of 1123 records were identified, of which 32 studies met the inclusion criteria after screening and quality assessment. The results are synthesized into four major themes:

1. Inventory Optimization and Demand Forecasting: AI-driven predictive analytics reduced stockouts by 30–50% in hospitals implementing machine learning algorithms for demand forecasting. Hospitals using AI-powered real-time tracking systems reported a 40% reduction in expired and wasted supplies.
2. Cost Savings and Financial Impact: AI-led automation in procurement and supply chain decision-making reduced operational costs by 20–35%. Hospitals that adopted AI-based just-in-time (JIT) inventory models experienced average reduction of 15% in supply chain expenses without compromising service quality.
3. Operational Efficiency and Workflow Enhancement: AI-driven robotics and automation in hospital supply chain logistics improved order processing speed by 60% and reduced manual intervention in procurement tasks. Autonomous delivery robots and AI-assisted tracking systems minimized delays in critical supply distribution by 50%.
4. Barriers and Implementation Challenges: The primary barriers included resistance to technological adoption, high initial costs, integration challenges with existing hospital information systems and regulatory compliance concerns. Facilitators for successful implementation included leadership support, investment in AI training programs, and interoperability between AI tools and enterprise resource planning (ERP) systems.

Conclusion

AI is revolutionizing hospital supply chain management by enhancing efficiency, reducing costs, and ensuring the timely availability of critical resources. The evidence supports AI-driven demand forecasting, procurement automation, and logistics optimization as key drivers of operational excellence. Whilst challenges exist, particularly in adoption and integration, strategic investments in AI infrastructure and workforce training can significantly accelerate the transformation. As hospitals strive for financial sustainability and superior patient care, AI-

driven supply chains will play a key role in shaping the future of healthcare logistics. This systematic review provides strong evidence for healthcare leaders, policymakers and hospital administrators to embrace AI as an important tool in optimizing hospital supply chains.

Conflicts of interest related to this abstract: None

P-4004

AI-Optimized ETL Module for Healthcare Data Transformation: A Key Component of the Data-Driven Healthcare Integration Project

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Introduction

Our healthcare ecosystem suffered from systemic inefficiencies and fragmentation across functional, organizational, and management layers. While modernization strategies mitigated many challenges, limited interoperability across systems, disjointed data handling, and complex data flows continued to obstruct integration. Despite substantial investments and cutting-edge management applications, the absence of a unified framework for data governance, standardization, and interoperability hindered digital transformation and prevented the seamless deployment of AI-driven methodologies, machine learning, and predictive analytics, essential to modern healthcare systems. This not only penalized operational efficiency but also exacerbated constraints on our healthcare system, which increasingly demands adaptable, data-driven solutions. Compounding these issues, the IT infrastructure made a federated data warehouse impractical, as data mapping attempts failed due to semantic misalignment, structural redundancies, and classification inconsistencies. Through advanced data harmonization and semantic interoperability within a custom AI-enhanced ETL framework, we built a scalable, interoperable digital ecosystem, setting a high standard for digital healthcare innovation.

Aim/Objective(s)

This project introduces an advanced ETL system to redefine healthcare Data Governance, leveraging an innovative architecture that deeply integrates NLP and advanced knowledge graph techniques to enhance semantic data processing. Designed to overcome the structural limitations of traditional ETL frameworks in healthcare, this system efficiently manages the complexity of medical data in highly interoperable environments. By integrating all critical and complex operations directly within the ETL framework, this approach has enabled significant advancements, including:

- Accelerated Data Analysis Processes through automated and semantic structuring.
- Enhanced Data Integration leveraging NLP and knowledge graphs for intelligent processing.
- Development of Cost-Efficient Internal Data Warehouses optimized through ETL automation.
- Enabling Participation in Experimental Research via high-quality synthetic dataset generation.
- Improved Data Interoperability and Data driven Processes through contextual fusion and internal integration of medical data formats.
- Decentralized Computational Complexity with automated, scalable ETL pipelines.

Methods

The AI-enhanced ETL system is a fully integrated, multi-layered framework, incorporating middleware components, with internally developed innovations and external API-based micro-services.

The architecture is structured into modular macro-layers:

- Core NLP and Generative API Layer – Orchestrates advanced data structuring workflows using AI, leveraging parameterized prompt-driven processing and JSON pipelines to enhance all underlying layers and ensure seamless data transformation.
- API Services Layer – Facilitates the integration of external APIs, improving data interoperability and real-time connectivity.
- Database Connectivity Layer – Implements ODBC integrations and extends capabilities with a generative XML parser for universal medical protocol ingestion.
- Interoperability-Driven Data Transformation – Executes on-the-fly AI-powered data harmonization, ensuring compliance and seamless cross-system integration.
- Compliance & Synthetic Data Layer – Embeds a custom encryption-optimized synthetic data generation algorithm, enhancing high-volume dataset creation and security.
- Dynamic Processing & Intelligent Scheduling – Utilizes AI-driven orchestration, optimizing data warehouse performance while reducing source system load.

Results

The adoption of an AI-driven ETL pipeline enabled rapid deployment with minimal costs, overcoming data integration, processing, and interoperability challenges while optimizing healthcare data management. This advancement initiated a structured digital transformation, modernizing healthcare data workflows.

Key Achievements:

AI-Optimized Data Ecosystem

- Established a high-performance internal data hub, ensuring efficient storage and access.
- Optimized Application Services efficiency, offloading non-essential workloads to improve performance and latency.
- Transformed inaccessible data into an AI-driven ecosystem, unlocking analytics.

Data Process Simplification & Service Enablement

- AI-driven orchestration reduced deployment times and improved data integration.
- Accelerated data extraction, optimizing management, diagnostics, and research.
- Enabled digital services, leveraging expanded data availability.

Interoperability & Open-Source Integration

- Improved interoperability, ensuring seamless data exchange.
- AI-driven semantic harmonization, optimizing cross-system compatibility.
- Integrated with open-source platforms for monitoring, AI, and visualization.

Research Acceleration & Cost Optimization

- Faster clinical trials, using AI-generated synthetic datasets.
- AI-driven encryption, ensuring compliance-ready research.
- Extended APIs, supporting AI-driven applications.
- AI-driven data warehousing, reducing infrastructure and consulting costs.
- Lowered external consulting costs, eliminating manual interoperability services.
- Revenue growth through AI-driven services, optimizing resource allocation.

Conclusion

Integrating a custom AI-enhanced ETL layer into our IT infrastructure, rather than relying on standardized ETL systems, has revolutionized data organization, retrieval, and management, overcoming previous data challenges. This approach streamlined data hub operations and enabled a structured, scalable digital evolution, significantly improving healthcare data efficiency. A key breakthrough was the strategic integration of NLP and generative mapping within the ETL, transforming traditional AI applications in data analytics into seamless, automated, and fully embedded workflows. Beyond structuring application databases and optimizing data warehousing, this innovation enhanced intelligent data retrieval and transformation, ensuring efficient, automated, and context-aware access. By leveraging smart data transformation strategies and intelligent ETL pipelines, data harmonization and structuring have accelerated healthcare innovation, enabling the development of new digital services for citizens and professionals. The data warehouse was also immediately integrated with advanced open-source applications, providing cost-free monitoring, analytics, and research tools. Furthermore, internal AI algorithms for synthetic data generation, combined with medical data standardization and NLP-driven functionalities, have greatly accelerated experimentation and research. This pioneering model, based on a low-level AI-driven ETL approach, is more than a technical advancement; it is a core component of our digitalization process, driving our healthcare system toward next-generation data-driven transformation.

Conflicts of interest related to this abstract: None

P-4005

AI-Powered detection of parasitic ova in stool samples: Benchmarking Faster R-CNN, RetinaNet, YOLOv8, YOLOv12 and RT-DETRv2 for hospital use

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Introduction

Parasitic infections continue to pose a major global health challenge, particularly in low-resource settings where stool microscopy remains the diagnostic standard. However, manual microscopic examination is labor-intensive, time-consuming, and subject to inter-observer variability. Artificial Intelligence (AI)-based object detection offers a promising alternative to automate and improve the accuracy and consistency of parasitic ova detection in stool samples.

Aim/Objective(s)

This study aims to develop and evaluate AI-based object detection models for the identification and classification of human parasitic ova in microscopic stool images. The objective is to benchmark the performance of various state-of-the-art deep learning models to determine their feasibility for clinical application.

Methods

A dataset of annotated microscopic stool images was used to train and evaluate five deep learning object detection architectures: Faster R-CNN, RetinaNet, YOLOv8, YOLOv12, and RT-DETRv2. Model performance was assessed using standard metrics, including F1 score and mean Average Precision at an intersection-over-union threshold of 0.5 (mAP@0.5).

Results

Among the tested models, YOLOv8 achieved the highest performance, with an F1 score of 0.92 and a mAP@0.5 of 0.959.

These results indicate high accuracy in both detecting and classifying parasitic ova. The AI model demonstrated the potential to improve diagnostic efficiency and reduce the variability and workload associated with manual microscopy.

Conclusion

AI-based object detection models, particularly YOLOv8, show strong potential for enhancing parasitological diagnostics in clinical settings. Their deployment could be especially impactful in resource-limited environments. Further validation studies and workflow integration assessments are needed to support clinical adoption and scalability.

Conflicts of interest related to this abstract: None

P-4006

Assessing the Impact of Teleconsultation on Patient Care and Operational Efficiency at a High-Volume Cancer Center

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Introduction

With rising patient loads in tertiary hospitals, teleconsultation has become a vital tool to improve specialist access, reduce travel burden, and optimize outpatient workflows. Virtual consultations can benefit patients who require follow-ups, treatment modifications, and second opinions, particularly in oncology. However, scalability and standardization challenges remain, requiring a structured evaluation of teleconsultation implementation. TMH introduced teleconsultation as a structured service across multiple oncology specialties (DMGs) to assess operational feasibility, stakeholder satisfaction, and process efficiency. This study evaluates:

1. Teleconsultation adoption trends and service utilization at TMH.
2. Challenges affecting workflow efficiency, including scheduling, network reliability, and clinical limitations.
3. Stakeholder perspectives from patients, doctors, and administrative staff.
4. Recommendations to improve service quality, efficiency, and sustainability.

By analyzing real-world patient and provider experiences, this study aims to refine teleconsultation models to enhance digital healthcare delivery in oncology.

Aim/Objective(s)

The study aimed to evaluate the efficiency, quality, and challenges of teleconsultation at TMH, focusing on operational workflow, stakeholder experiences, and patient outcomes. Specific objectives included:

1. Process Mapping: Identifying bottlenecks in scheduling, turnaround time (TAT), and inter-department coordination.
2. Service Utilization Analysis: Examining request volumes, completion rates, and in-person follow-up trends.
3. Stakeholder Feedback: Measuring satisfaction and concerns from patients, oncologists, DMG coordinators, and teleconsultation team members.
4. Quality Indicators: Evaluating patient-reported outcomes, including perceived accessibility, consultation adequacy, and follow-up preferences.
5. Operational Enhancements: Proposing workflow and technology improvements to optimize digital healthcare delivery.

This study seeks to bridge digital gaps in oncology care by providing actionable insights into the scalability and long-term integration of teleconsultation services.

Methods

A mixed-methods study was conducted, combining quantitative service utilization data with qualitative stakeholder feedback.

1. Service Utilization Analysis: Data was collected for 5,403 teleconsultation requests, analyzing completion rates, turnaround time, and patient follow-up trends.
2. Patient Feedback: A random sample of 100 patients (20 from each of five DMGs) was surveyed via structured telephonic interviews.
3. Provider Feedback: Doctors (n = 10), DMG coordinators (n = 10), and teleconsultation staff (n = 4) participated in structured questionnaires and interviews.
4. Process Mapping: Teleconsultation workflows were assessed for efficiency, compliance, and bottlenecks in scheduling, document verification, and report generation.

Data was coded and analyzed using statistical software, with thematic analysis for qualitative responses. The study was ethically approved, and informed consent was obtained from participants.

Results

- Service Utilization: Of 5,403 patient requests, 4,013 (74.3%) completed their teleconsultation, while 1,390 (25.7%) faced access barriers related to technology, documentation, or scheduling conflicts.
- Turnaround Time: 66% of calls were completed within 15 days, with variability across DMGs due to documentation and appointment scheduling delays.
- Patient Satisfaction: Among 100 surveyed patients, 88.7% were satisfied, highlighting convenience and reduced travel burden. However, 72.5% still preferred in-person visits due to limitations in physical examination.
- Provider Feedback: 60% of doctors reported teleconsultation was effective for follow-ups, but network issues, redundant requests, and unclear patient expectations were challenges.
- Operational Bottlenecks: Key constraints included long scheduling processes, inefficient appointment workflows, and inadequate internet connectivity.

Conclusion

Teleconsultation has emerged as a viable alternative for follow-ups and treatment modifications in oncology, offering greater accessibility and reduced travel burden for patients. However, workflow inefficiencies, technological limitations, and patient preferences for physical visits must be addressed for long-term sustainability.

Key recommendations include:

- Process Improvements: Streamlining appointment scheduling, optimizing documentation workflows, and enhancing turnaround time (TAT) consistency.
- Technology Upgrades: Ensuring strong network infrastructure, providing hospital Wi-Fi access for teleconsultation teams, and integrating electronic medical records (EMR) with the teleconsultation platform.
- Training & Patient Awareness: Conducting training sessions for providers on telemedicine best practices and educating patients on suitable use cases.
- Refining Patient Selection Criteria: Prioritizing teleconsultation for long-term follow-ups and second opinions, while directing new or complex cases to in-person visits.

With process optimizations and better technological support, teleconsultation can strengthen oncology service delivery, balancing efficiency with patient-centered care.

Conflicts of interest related to this abstract: None

P-4007

Change Management and Clinical Governance in Surveillance, Prevention and Control of Healthcare-Related Infections.

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Introduction

Healthcare Organization, Technological Innovation, Safety of care and management and prevention of risk from healthcare-related illness. Crucial themes, key activities of Healthcare Management and one of the concrete applications of Clinical Governance.

Within hospitals, HAIs represent the largest number of adverse events that cannot be entirely avoided but are certainly predictable and partly preventable.

Aim/Objective(s)

The Barletta Hospital (ASL BAT) thus launched a Clinical Governance process in 2024 applied to the Infection Control process, which, in relation to the results, could represent an organizational management model that can be exported to other local, regional and even extra-national healthcare contexts.

Methods

An organizational model has been prepared that allows streamlining and optimizing the traceability of flows, the involvement of the various professionals competent in the matter, guaranteeing an effective, safe, appropriate and timely organizational path, as well as a significant improvement in the quality of care and safety of treatment.

Results

The experimental project involves the adaptation of the Organization in terms of Infection Control in line with the criteria of Safety and Organizational and Technological Innovation, also taken up by the legislation on Institutional Accreditation and Certification of Excellence.

Conclusion

An Organizational Model that exploits digital technology has been implemented. An Ordinary and Extraordinary Management Plan for ICA, with the creation of a database where all the data relating to the preventive and reactive actions implemented following reporting/notification of the case converge.

Conflicts of interest related to this abstract: nessuno

P-4008

Communication, health and digital transformation: Analysis of the websites of the hospitals in Spain and Brazil

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Introduction

The research problem was based on the following premise: how is the communication process structured on the websites of the largest Brazilian and Spanish hospitals? It is understood that the healthcare context in Brazil and Spain is different, whether due to its scope, number of devices, or operating protocols.

The information phenomenon (PÉREZ-MONTORO, 2007) and digital transformation have impacted society in all its dimensions and different sectors. And it is precisely in this context that the article discusses: the visualization of these theoretical aspects in the practice of the healthcare sector, through the websites of hospitals. Hospitals are organizations that, like others, establish communication processes, but in this case, there is the assumption that, in addition to establishing mediation with potential consumers of healthcare services, they also do so with society itself, by constructing and disseminating information with the authority of being a healthcare provider unit.

Aim/Objective(s)

The objective of the study was to carry out a descriptive and comparative analysis of the websites of hospitals in Brazil and Spain with a focus on understanding the dynamics of communication and consumption of information. The research was carried out in 2022 with the websites of the 50 largest hospitals in Brazil and Spain, totaling an analysis of 100 online pages. Another viable point was to verify how much this means of communication contributes to the informational empowerment of patients in the health unit (GOSH et al 2014). This analysis provides a comparison of the practices used in a South American country and a European country, contrasting the possible contributions of one to the other, to provide theoretical and practical reflections on the experience of users (PÉREZ-MONTORO and CODINA, 2017).

Methods

The methodology for this study was structured using qualitative research, with a convenience sample. The websites of the 50 largest hospitals in Brazil and Spain were selected, totaling an analysis of 100 online pages. The sample was categorized, resulting in a spreadsheet with the organized data, as well as an image capture of the home page of each website. As a technique, we used non-reactive online observation and virtual documentation, with the content analysis method (BARDIN, 1977), focusing on verifying the structure and providing comparisons between digital media (CODINA et al 2014), analysis of informational design (JIMENEZ-IGLESIAS, PÉREZ-MONTORO and SÁNCHEZ-GÓMEZ, 2017); and information architecture (PÉREZ-MONTORO, 2010). The analysis of the collected data was undertaken by cross-referencing information from Brazil and Spain, verifying, through a categorization form created based on content analysis, the characterization of the hospitals and subsequently the data on the websites, their structure, content and themes presented.

Results

The study analyzed 100 hospitals, 50 in Brazil and 50 in Spain, prioritizing those with the highest number of beds. In Brazil, most hospitals have 500-750 beds, with one exceeding 1500 beds. In Spain, 19 hospitals fall within the 500-750 range, 18 within 751-999, and 13 within 1000-1500. Regarding ownership, Brazil has 22 private and 28 public hospitals, while Spain has only 3 private hospitals. For websites, 42 Brazilian hospitals have responsive designs compared to 37 in Spain. In Brazil, 24 hospitals have dedicated domains (20 private), while in Spain, 34 use subdomains, mainly linked to government platforms. Blue was the predominant color in both countries (28 in Brazil and 30 in Spain), followed by green in Brazil (12) and gray/red in Spain (6). Social media platforms like Facebook and Instagram are more referenced in Brazil, while Twitter, Facebook and YouTube dominate in Spain. Spanish websites offer more multilingual options, reflecting regional diversity and tourism. Education and research information appeared on 38 Spanish and 26 Brazilian sites. COVID-19 topics were more detailed in Spanish sites, with 17 having dedicated main pages.

Conclusion

The analysis highlights key differences between Brazilian and Spanish hospitals, showcasing how legal and cultural structures influence websites. Brazilian hospitals display less standardization in domain usage and more diversity, while Spanish hospitals show greater integration with government systems. The dominance of blue as the primary color reflects global trends associated with health and calmness. Aspects such as accessibility, contemporary themes (quality, sustainability), and multilingual offerings need improvement, especially in Brazilian websites. The use of social media and other communication channels varies, with Brazil innovating through WhatsApp. Institutional information and pandemic-related content were more comprehensive on Spanish sites, underlining stronger commitments to transparency and public assistance. The findings emphasize the need for hospital websites to better align with audience demands, adopting improved communication and digital design practices to meet user expectations and enhance institutional reputations. Digital transformation has played a key role in the modernization of hospitals, redefining how healthcare services are delivered, managed, and accessed. The integration of digital technologies into websites, such as responsive design, improved accessibility, and strategic use of data. Thus, digital transformation is a strategic imperative to ensure that hospitals continue to be pillars of quality and innovation in healthcare.

Conflicts of interest related to this abstract: None

P-4009

Construction and Application of an Intelligent Bed Allocation Model: A Study Based on Big Data and Machine Learning

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Introduction

The bed allocation process in hospitals is highly complex, taking into account not only patients arriving from outpatient and emergency departments but also those being transferred from intensive care units. Certain departments prefer to centralize patients in specific wards, such as the Rehabilitation Department for the convenience of rehabilitation activities. Additional considerations include avoiding placing male and female patients in the same double room and grouping patients under the same physician in adjacent rooms. These meticulous measures and arrangements require significant time and effort to ensure an optimal hospitalization experience for both physicians and inpatients. This study employs big data analysis and machine learning techniques to develop an intelligent bed allocation model. The aim is to make the bed allocation, transfer, and placement processes more aligned with medical and patient needs, thereby adding a "human touch" to bed management.

Aim/Objective(s)

This study aims to develop an intelligent bed allocation model using big data and machine learning techniques. The primary objectives are to optimize bed assignment, transfer, and placement processes by aligning them with the specific needs of

medical staff and patients. By analyzing historical bed allocation data from the hospital, the study employs Random Forest, LightGBM, and XGBoost algorithms to train and evaluate the models. The goal is to enhance the accuracy and efficiency of bed management, providing a more personalized and efficient hospitalization experience. The study also seeks to identify the most effective algorithm for bed allocation tasks and understand the adherence of bed allocation personnel to consistent judgment criteria.

Methods

Given the varying operational modes and rules of different medical institutions, we utilized only the historical bed allocation data from the target hospital for machine learning model training. We collected a total of 55,663 historical records spanning from April 2023 to November 2024 for training. From each record, we selected 18 features, including department, gender, priority, and bed grade, considering factors like feature relevance and non-redundancy. For the AI models, we employed three algorithms: Random Forest, Light Gradient Boosting Machine (LightGBM), and eXtreme Gradient Boosting (XGBoost). Each model's data was split into two parts: 80% for training and 20% for testing.

Results

Accuracy in this study is defined as follows: when a bed becomes available, the model selects the top N patients from the waiting list, and a match is considered successful if one of these patients is the same as the test bed allocation patient. We denote the model's selection of the top N patients as TOP N. TOP 1 represents the probability that the model's top choice matches the original allocation patient, while TOP 10 represents the probability that at least one of the model's top 10 choices matches. Random Forest achieved a TOP 1 accuracy of 49.03%, LightGBM 47.06%, and XGBoost an impressive 99.67%. Random Forest reached 90.06% accuracy at TOP 9, while LightGBM achieved 71.82% accuracy at TOP 100.

Conclusion

The results indicate that the model trained with XGBoost achieved the highest accuracy, followed by Random Forest, with LightGBM showing less ideal performance. The superior accuracy of XGBoost may be attributed to its gradient boosting algorithm, which handles large datasets and complex prediction tasks effectively, allowing for fine-tuning to reduce overfitting risks. Conversely, LightGBM is better suited for large-scale, high-dimensional datasets and is commonly used for classification, regression, ranking, and dense prediction tasks. However, it seems less effective for the complex, unstructured tasks involved in bed allocation. Furthermore, the high accuracy of XGBoost suggests that bed allocation personnel, aside from a few exceptional inpatient allocation cases, consistently adhere to the same judgment criteria.

Conflicts of interest related to this abstract: None

P-4010

Cutting-edge AI Orchestration Framework for Seamless GPT-technology Integration in Healthcare Data Ecosystems

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Introduction

The integration of generative AI models in healthcare is a strategic necessity for optimizing and advancing clinical and decision-making processes. However, in our Azienda Sanitaria Provinciale (ASP), the transition to AI has been fragmented, limited to non-scalable pilot projects, and hindered by the lack of a unified infrastructure for secure and standardized clinical data access. The absence of centralized governance has led to isolated AI experiments by individual clinicians and researchers, creating non-interoperable applications and models that are difficult to replicate, increasing methodological fragmentation and limiting large-scale clinical validation. Moreover, the necessity of integrating AI into our healthcare system arises from the inherent limitations of traditional interoperability solutions, which fail to provide seamless, standardized data exchange across clinical or administrative applications. Additionally, there is a lack of critical software functionalities typically integrated into AI-driven systems, such as image analysis, automated report generation, real-time clinical documentation, data summarization, etc.

Aim/Objective(s)

The project aims to develop a next-generation AI orchestration architecture for seamless GPT-technology integration within internal healthcare data ecosystems, addressing AI adoption challenges while ensuring standardized, secure, and structured deployment in our healthcare company. This framework will facilitate scalable AI adoption, supporting intelligent automation from custom chatbot-like interfaces to API-driven services, enabling seamless integration with third-party solutions.

Core Components for Goal Achievement:

- Unified Data Access Framework (UDAF) – API-driven middleware for secure, real-time access to EHRs, AI models, and medical records.
- Hybrid API Orchestration Algorithm (HAOA) – AI-powered validation enhancing response accuracy and filtering unreliable outputs.
- Generative Intelligence Enhancement Module (GIEM) – Adaptive prompt engineering to refine AI-driven interactions.
- AI-Optimized Deployment Framework (AIO-DF) – AI-native processing for imaging, diagnostics, and data extraction, modernizing healthcare IT.
- Physician-Centric AI Interface (GTO) – Pre-configured workflows to streamline AI adoption and enhance clinical efficiency.

Methods

This project follows a structured, iterative methodology to ensure scalable, validated AI integration into healthcare systems, fully leveraging GPT technology and modern generative API frameworks.

Key Methodological Components:

- System Architecture & API Framework – Developing a containerized microservices architecture with RESTful and GraphQL APIs for secure data access.

- Orchestrated AI Optimization Algorithm (OAOA) – Implementing an AI-driven orchestration layer to refine and optimize API query routing for NLP-based systems.
- Generative AI Enhancement – Strengthening GPT capabilities through prompt refinement, multimodal AI integration (e.g., imaging, speech-to-text), and clinical expertise.
- Advanced JSON Serialization Layer – Establishing a structured framework for interoperability between GPT actions and external APIs, ensuring dynamic payload transmission and protocol integration.
- Adaptive Clinical Interface (GTO) – Designing an AI-assisted interface to streamline medical workflows and enhance usability.
- Phased Deployment – Initial pilot testing with clinicians, followed by progressive rollout and validation.

Results

This pilot project demonstrated the feasibility of scalable AI integration in healthcare, proving that GPT-powered solutions can enhance interoperability, automation, and clinical efficiency. The findings indicate that future deployment can transform medical workflows and decision-making.

The project demonstrated:

1. Seamless AI-System Communication – The GPT models effectively interfaced with our EHRs, knowledge repositories, and clinical workflows, ensuring real-time, structured interactions between AI and medical systems.
2. Domain-Specific AI Applications – GPTs successfully supported diverse use cases, including clinical decision support, administrative task automation, and patient data synthesis, reducing manual workload and enhancing response precision.
3. Achieving True Interoperability & Software Modernization – The UDAF and JSON serialization frameworks enabled secure, structured data exchange, while GPT-powered AI replaced or optimized outdated software, streamlining clinical operations.
4. AI-Driven Collaboration & Adoption – The GIEM module facilitated knowledge sharing, adaptive prompt refinement, and intuitive AI-assisted workflows, ensuring strong clinician engagement and simplified system usability.
5. Rapid AI-Generated Solutions & Immediate Adaptability – The project produced 30+ AI-driven solutions, dynamically adapting to medical challenges and immediately updating clinical procedures, eliminating long adaptation cycles.
6. Scalability & Real-World Validation – The phased pilot rollout demonstrated strong adoption, proving the framework's reliability, efficiency, and potential for full-scale deployment.

Conclusion

This pilot study has empirically validated the feasibility of a cutting-edge AI orchestration framework, demonstrating its transformative potential in bridging GPT-driven intelligence with healthcare data ecosystems. By overcoming fragmentation, interoperability limitations, and inefficiencies in AI adoption, the project demonstrates how AI can be effectively integrated into clinical and administrative workflows, supporting more structured, scalable, and secure healthcare operations within our System. The developed layer redefines current communication models with GPT systems through the described techniques, introducing a new bidirectional paradigm of advanced interaction. This framework, on one hand, provides AI APIs to facilitate the development of internal services; on the other, by integrating internal healthcare data with GPT engines, it offers user-friendly web chat-based interfaces capable of fully leveraging the extraordinary potential of GPT-like systems. This enables the delivery of an unprecedented range of services, spanning from diagnostic support to advanced automation systems,

making our system increasingly distinctive, technologically advanced, and in constant growth thanks to the continuous evolution of GPT systems. The testing phase confirmed intuitive adoption by beta testers, validated service effectiveness, enhanced integration, and laid the foundation for optimization and expansion. The project is now ready for phased deployment, ensuring controlled scalability and real-world validation.

Conflicts of interest related to this abstract: None

P-4011

Determining Barriers and Drivers of Quality 4.0 Adoption in Healthcare Establishments of Pakistan

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Introduction

Quality 4.0 has the potential to transform the healthcare establishment by improving the operational efficiency, service quality, and data driven decision making. However, its adoption in developing country healthcare establishment presents significant challenges. These challenges include limited technology infrastructure, lack of data integration, organizational resistance, and ethical concern in digital governance.

Aim/Objective(s)

The study aims to identify the barriers and drivers influencing Quality 4.0 adoption in HealthCare Establishments.

Methods

A cross-sectional study design was employed. Using simple random sampling data was collected from 200 quality professional through a structured e-questionnaire. Respondents were approached via linked-in and other social media sources like what's app etc. They were being informed about their voluntary participation and ethics associated. They were also inquired about the knowledge of Quality 4.0 and only those professionals were selected who gave consent of having the said knowledge. 150 valid responses were received and further selected for data analysis using SPSS Ver22 and AMOS Ver22 to identify valid constructs.

Results

The findings of the study revealed that the lack of resources and organizational cultural support, lack of data and technology integration, and lack of ethics in digital strategic management are the significant barriers, while strategic alignment and organizational commitment to Quality 4.0, leadership commitment and support for Quality 4.0 implementation, stakeholder involvement and collaboration, and knowledge management are the key enablers of Quality 4.0 adoption in HCEs of Pakistan, facilitating the development of resilient, AI-Supported, and human centered healthcare model.

Conclusion

The findings of the study provide valuable insights for the healthcare policymaker and industry leaders to develop strategies that enhance Quality 4.0 implementation. By addressing the barriers and leveraging the key enablers, the healthcare establishments can transit towards more resilient and technology driven healthcare system. This study contributes to the ongoing discourse on digital transformation, AI integration, and telemedicine in healthcare.

Conflicts of interest related to this abstract: None

P-4012**Development of a Predictive Model to detect hospitalized persons with high risk of hyper- or hypoglycemia.**

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Introduction

Managing hyperglycemia in hospitalized patients is crucial for improving outcomes and reducing complications. With the aim to improve the management of glycemia during hospital stay for adult patients in conventional hospitalization, in 2020 a Proactive Glycemic Control Program was developed. A map of patients undergoing glycemic controls had been developed by the technologies office of the hospital and had been piloted during 2019. This map is delivered each day to the diabetes team in order to detect the patients with either hyper or hypoglycemia and to make changes in diabetes treatment during hospital stay as well as adjusting treatments at discharge. As almost 30% of hospitalized patients undergo glycemic control, this activity is challenging to implement and sometimes fails to detect patients at risk due to the retrospective nature of data in the map, especially for those patients admitted after 21.00h or during the weekends.

Aim/Objective(s)

To develop and validate a predictive algorithm for episodes of hypo- and hyperglycemia during hospital stays.

To design an automated data-feeding circuit to continuously supply the model with updated information, allowing its direct integration into the hospital care workflow in order to proactively assist in the prevention and management of patient glycemia.

Methods

Firstly, an exhaustive review of existing literature was conducted to identify the most effective techniques, key variables (such as medical diagnoses, assigned diets, pharmaceutical data, nursing records, laboratory results, among others), and best practices already proven. Subsequently, rigorous criteria were established to guarantee the quality, homogeneity, and standardization of the collected data, ensuring that they are reliable and consistent. Additionally, a retrospective cutoff date was defined, specifying from which date historical data can be safely used. The next phase has involved the creation and training of an advanced neural network-based model, a technique capable of identifying complex patterns within data to predict episodes of hypo- or hyperglycemia. Once developed, the model was validated using specific datasets that were not previously utilized during training, ensuring its accuracy and reliability.

Results

Initially, approximately 6 million records were considered, sourced from standardized clinical nursing records and general patient information. Preliminary data show a True Positive Rate and True Negative Rate around 80%. Currently, the project is in an improvement phase, evaluating the validity of extending the model to include additional data such as medical diagnoses, assigned dietary plans, pharmaceutical information, and laboratory results.

Conclusion

Developing a predictive model for hyper- or hypoglycemia in hospitalized patients can significantly improve diabetes management and patient care. By leveraging real-time patient data, such models can anticipate glycemic fluctuations before they become critical, allowing for timely interventions. This proactive approach reduces the risk of severe complications such as diabetic ketoacidosis or hypoglycemic shock, ultimately enhancing patient safety and outcomes. For healthcare providers, a predictive model enables a more efficient allocation of resources by identifying high-risk patients who require immediate attention. This prioritization ensures that medical staff can focus on those in urgent need, improving workflow efficiency and reducing the burden on hospital personnel. Additionally, early detection of glycemic imbalances minimizes prolonged hospital stays and associated healthcare costs, leading to a more cost-effective system. From the patient's perspective, timely interventions contribute to better glycemic control, reducing discomfort, anxiety, and the likelihood of long-term complications. A well-managed glucose level also leads to a faster recovery and improved quality of life. Overall, integrating predictive analytics into hospital settings enhances patient care, optimizes resource utilization, and improves healthcare efficiency. This innovation represents a crucial step toward personalized and data-driven diabetes management, benefiting both patients and healthcare systems.

Conflicts of interest related to this abstract: None

P-4013**Development of an Advanced AI-Orchestrated Framework for Federated Learning on Internal Clinical Data and Global Scientific Repositories for Predictive Healthcare**

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Introduction

In modern healthcare, anticipating and mitigating medical conditions in both emergency and preventive settings is crucial. ML advancements, from established diagnostic models to experimental deep learning, enable systematic biomedical data analysis, uncovering critical patterns for clinical decision-making. Combined with the proliferation of high-quality clinical datasets, these processes enhance high-throughput computational frameworks for real-time risk stratification, pathology forecasting, and anomaly detection with unprecedented precision. Over the years, our institution has integrated advanced clinical instrumentation for real-time monitoring, laboratory diagnostics, and electronic health records. Moreover, to optimize data streams, we developed a scalable ETL (Extract, Transform, Load) pipeline to extract, normalize, and structure clinical data into high-fidelity datasets for scientific analysis. This infrastructure underpins an AI-enabled computational framework to advance predictive diagnostics and decision support systems.

Aim/Objective(s)

The objective of this study is to develop a high-performance AI-orchestrated framework that seamlessly integrates internal clinical datasets with global biomedical repositories, enabling scalable, AI-driven comparative diagnostics and predictive modeling. By leveraging sophisticated ML algorithms trained on external datasets and applied to internal data, this system establishes a new standard in data-driven decision-making, en-

sureing high-fidelity, real-time clinical insights through advanced harmonization techniques and hybrid AI methodologies.

Key Objectives

- AI-Driven Data Standardization – Converts unstructured clinical data into structured, interoperable datasets.
- Comparative AI Benchmarking – Aligns internal and external datasets, enhancing diagnostic accuracy.
- Hybrid AI Modeling – Integrates ML-based feature extraction with generative AI for advanced predictive analytics.
- Dynamic Model Refinement – Continuously improves predictive accuracy through adaptive retraining.
- Automated Workflows – Streamlines AI adoption for scalable, real-time implementation.

By fully realizing true AI-driven automation, this framework optimizes clinical workflows, enhances interoperability, and establishes an adaptable infrastructure for next-generation precision medicine and real-time diagnostics.

Methods

This study aimed to develop a scalable AI-driven computational framework, leveraging internal clinical data and pre-trained ML models on external datasets. However, traditional approaches fails due to misalignment between datasets, causing inconsistencies in predictive accuracy. To address this, we implemented advanced data harmonization, hybrid AI modeling, and an adaptive comparative framework, enhancing results.

Key Methodological Components

- ETL & NLP-Driven Data Harmonization – ETL pipelines extract, normalize, and standardize data from EHRs, laboratory diagnostics, biomedical sensors, and external repositories. NLP-based ontology mapping ensures semantic interoperability.
- Dynamic Dataset Structuring & Comparative Analysis – An AI-driven orchestration layer merges and compares datasets, optimizing algorithm selection and statistical relevance for diagnostics.
- Hybrid AI Comparative Modeling – A multi-layered ML framework integrates deep learning, probabilistic inference, and generative AI to detect pathological deviations and risk factors.
- Model Refinement & Pilot Deployment – A semi-automated pipeline optimizes datasets and supports pilot studies in hematology and epidemiology, ensuring real-world implementation.

Results

This study has led to the development of a sophisticated AI-driven framework that seamlessly integrates clinical data with external biomedical repositories, enabling comparative diagnostics and pathology detection. By leveraging validated external datasets and high-fidelity synthetic data, the system enhances AI-assisted clinical decision-making and real-time pathology prediction, ensuring a scalable, adaptive, and high-precision analytical process for data-driven healthcare.

Key Achievements:

- Data Extraction & Standardization – Increased structured dataset availability from 12% to 87%, ensuring seamless transformation across EHRs, laboratory diagnostics, and biomedical sensors.
- Harmonization with External Repositories – Improved semantic interoperability, aligning internal datasets with scientific repositories and medical ontologies for greater comparative analysis accuracy.
- AI-Driven Predictive Modeling – Applied hybrid AI techniques, including deep learning ensembles, probabilistic in-

ference, and generative AI, to train ML models with validated external and synthetic data, optimizing pathology detection and risk stratification.

- Adaptive Model Refinement – Enabled iterative model retraining, continuously improving predictive performance and diagnostic precision.
- Semi-Automated Workflow Deployment – Established a scalable AI-driven methodology, accelerating real-world AI-driven diagnostics.
- Pilot Studies in Hematology & Epidemiology – Applied AI-based pathology detection and predictive modeling, contributing to a globally applicable model.

These findings mark a critical step in integrating AI-assisted decision support into clinical practice, ensuring scalable, adaptive, and real-time AI-driven diagnostics.

Conclusion

The development of this AI-orchestrated framework demonstrates the feasibility of seamlessly integrating internal clinical data with global scientific repositories, significantly enhancing predictive healthcare and diagnostic precision. By leveraging advanced harmonization techniques and AI-driven processing, the framework achieves high analytical accuracy, enabling unprecedented, automated, scalable utilization of laboratory and clinical data, ensuring a new-generation and autonomous diagnostic process. This research establishes a robust, scalable infrastructure for data-driven decision-making, particularly in emergency diagnostics, epidemiology, and personalized medicine. The seamless interoperability between internal and external biomedical datasets ensures more precise, evidence-based clinical assessments, reducing diagnostic errors and improving patient outcomes. Furthermore, as external datasets continue to expand, the system evolves dynamically, refining its predictive capabilities and enhancing decision support. From a regulatory and practical standpoint, the framework serves as a replicable model for AI-driven comparative diagnostics, promoting standardization, interoperability, and ethical AI deployment. The semi-automated AI pipeline accelerates the transition from research to clinical practice, streamlining pilot implementations. Pilot studies in hematology and epidemiology confirm its effectiveness, with ongoing advancements in federated AI, algorithm refinement, and continuous real-time data integration, ensuring long-term adaptability and scalability.

Conflicts of interest related to this abstract: None

P-4014

Development of an AI-Driven Patient Placement for Optimised Resource Management in General Admission Wards: A Virtual Trial

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Introduction

In Singapore's National University Hospital (NUH), the Department of Medicine faces challenges in efficient bed management. About 18,200 patients are admitted annually, with a high Bed Occupancy Rate (BOR) of more than 85%. To optimise resources, the Bed Management Unit (BMU) places general admission patients to different ward types, assisted by clinician's input and expected length of stay (eLOS). The Acute Medical Unit (AMU) handles short stays (≤ 3 days) and has limited capacity of 55 beds, while General Wards accommodate longer stays and has more than 400 beds. Currently, NUH lacks a tool to accurately predict eLOS upon admission, leading to suboptimal patient placement into AMU. This results in resource inefficiency, when patients in the bed-limited AMU become long-stayers. Furthermore, transferring long-stayers also increase AMU's operational costs. The study proposes developing a model to predict patient eLOS, aiming to improve patient placement and optimise resource utilisation in AMU.

Aim/Objective(s) Enhance resource utilisation in Acute Medical Unit (AMU) by increasing the proportion of short-stay patients.

1. Reduce costs associated with unnecessary bed transfers of long-stay patients from AMU to General Wards.

Research Objectives:

1. Develop and evaluate a prediction model for BMU to forecast patients' expected length of stay (eLOS).
2. Using a retrospective patient cohort, conduct a simulated trial comparing model-based patient placement with simulation of BMU's clinician-assisted decision-making practice.
3. Assess the model's effectiveness in minimising the cost incurred from unnecessary bed transfers.

Methods

We aim to predict whether patient's LOS will be ≤ 3 days or > 3 days, based on Emergency Department (ED) clinician notes, focusing specifically on inpatients admitted to the Medicine specialty. Our dataset consists of approximately 37,000 cases, split into training (75%), validation (15%), and test (15%) sets using stratified sampling. To enhance generalisation, we incorporated additional 131,000 ED cases, including both inpatient and outpatient encounters, into the training set. To prevent data leakage, we ensured no patients from the validation or test sets appear in the training set.

We fine-tuned a BioBERT model on this dataset, optimising it with a learning rate of 5×10^{-6} and applying a dropout rate of 0.1 (Lee et al., 2020). A 113-week virtual trial compared model-based patient placement (Figure 1a) against simulation of BMU's placement (control), based on past clinician-assisted decision (Figure 1b). Trial cohort was constructed from resampled test set patient data.

Results

Our BioBERT prediction model achieved 0.64 accuracy and 0.63 ROC-AUC in predicting eLOS for AMU and General Ward patients (Table 1). For short-stay prediction (optimal AMU eLOS), precision and recall were 0.64 and 0.52, respectively. In the virtual trial, BioBERT-based placement outperformed simulated BMU clinician-assisted placement (control) in AMU resource utilisation. The mean weekly proportion of short-stays in AMU was significantly higher in the BioBERT-based placement ($64.3 \pm 3\%$ vs. $49.8 \pm 3.2\%$, 95% CI, $p < 0.05$), a 29% increase (Figure 2). BioBERT-based placement also significantly reduced mean bed transfers (arising from patients who eventually become long-stayers in AMU). Reduction was 11% (BioBERT: 27.3 ± 2.4 patients vs. BMU clinician-assisted: 31.0 ± 2.3 patients, 95% CI, $p = 0.02$) (Figure 3). Projecting the cost of transfers, BioBERT-based placement could potentially save \$129,303 annually in transfer expenses (Table 2).

Conclusion

Optimising resources by LOS is challenging. Clinicians must estimate eLOS based on the patient work-up available during ED investigation. This limits the hospital's effectiveness to place patients in resource-optimum ward type. Our virtual trial demonstrated that patient placement based on an AI prediction model can significantly outperform clinician-assisted placement in optimum placement and cost reduction. A limitation of the virtual trial was bed transfers was controlled. This prevented the influence of bed transfers on bed-availability. In real-world setting, transfers can increase bed turnover, increasing the patient number seen over the same period, amplifying resource utilisation. We anticipate that implementing our BioBERT model in practice will yield greater cost savings and support more patients through optimised bed turnover. To validate these expectations, a real-world trial is scheduled for 2025. We believe AI-driven patient placement will improve resource allocation, reduce costs, and expand patient care capacity.

References

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Conflicts of interest related to this abstract: None

Table 1: Prediction performance metrics of BioBERT prediction model

Prediction	Accuracy	ROC-AUC	Precision	Recall	F1	Test Support
Long-stay (eLOS > 3 days)			0.64	0.74	0.69	2,592
Short-stay (eLOS ≤ 3 days)			0.64	0.52	0.58	2,250
	0.64	0.63				4,842

Table 2: Estimated cost saved from bed transfers

	Mean (95% CI)
Mean weekly cost saved	\$2,481 (\$651 - \$4,322)
Estimated annual cost saved	\$129,303

Figure 1a: Ward simulation of BioBERT-based patient placement. Patients were placed in optimal ward type, based on BioBERT’s eLOS prediction. Ward capacity was simulated using a virtual admission and discharge cycle, based on retrospective patient data.

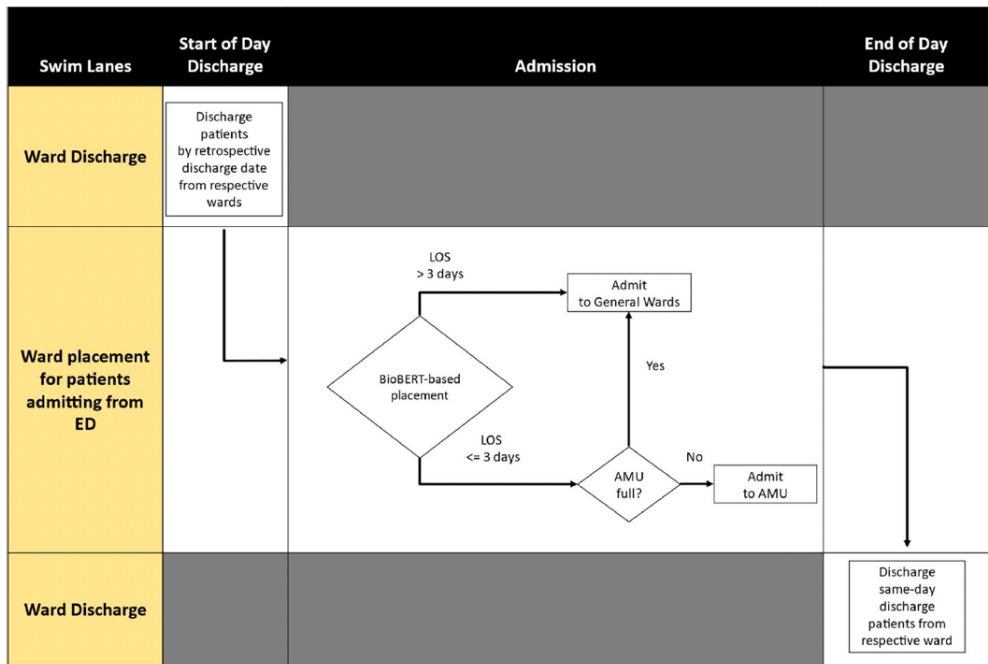


Figure 1b: Ward simulation of BMU’s placement (control). Patient were placed into ward type, based on simulation of BMU’s past clinician-assisted decision. Ward capacity was simulated using a virtual admission and discharge cycle, based on retrospective patient data.

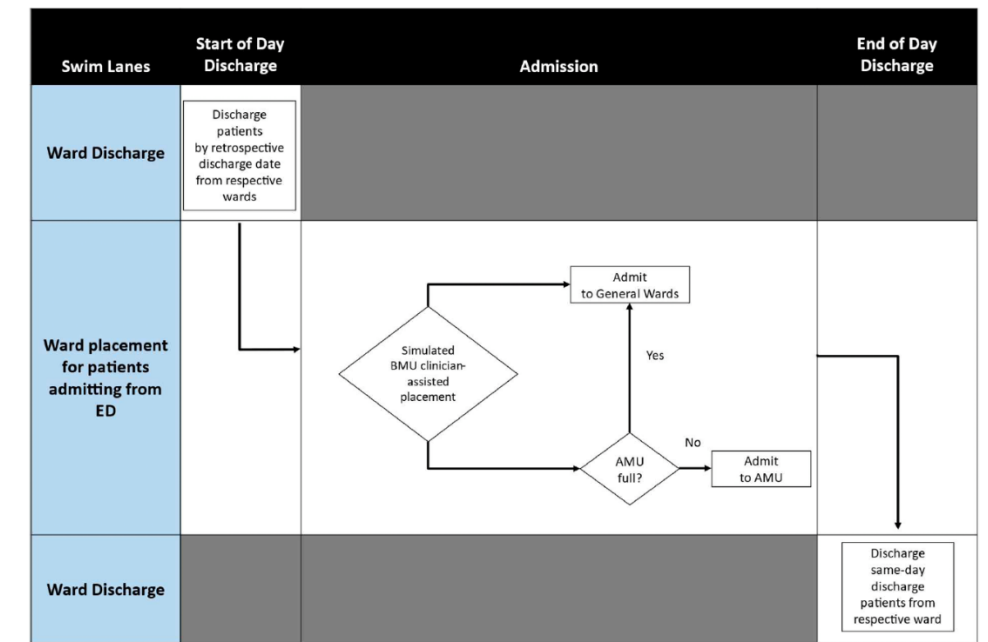


Figure 2: Mean weekly proportion of short stay in AMU. Results of virtual trial. Bars indicate 95% confidence interval. Means compared using two sample z-test for proportions.

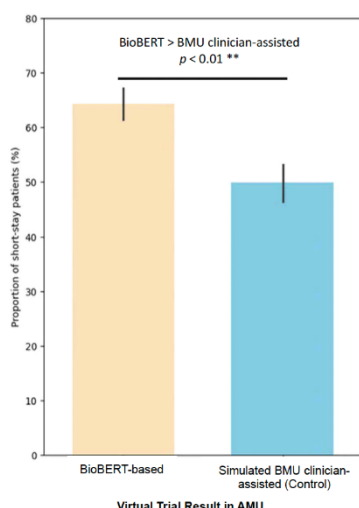
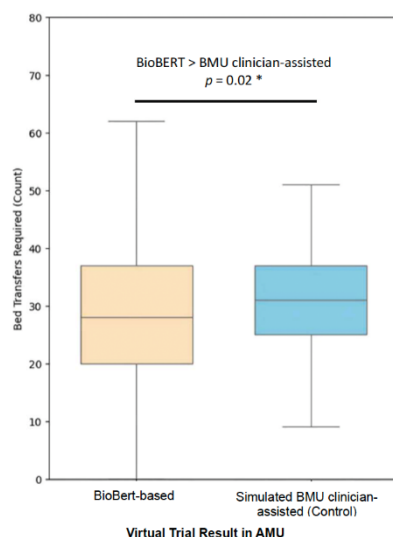


Figure 3: Mean weekly bed transfers required in AMU. Results of virtual trial. Means compared using two sample t-test.



P-4015

Digital Transformation in Healthcare: How Microsoft O365 Empowers Taiwan's Smart Hospitals

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Introduction

The rapid advancement of global medical technology contrasts with the slowing growth of the healthcare workforce and an aging population, leading to increasing medical demand and a widening gap in healthcare personnel. The World Health Organization predicts a shortage of 18 million healthcare workers by 2030. To address this, modern healthcare systems must not only enhance process efficiency and service quality but also strive for sustainable development in response to the ESG (En-

vironment, Social, Governance) movement. Far Eastern Memorial Hospital (FEMH) is proactively addressing these challenges by focusing on digital transformation to counter the global shortage of healthcare professionals.

Aim/Objective(s)

Since October 2023, FEMH has partnered with Microsoft to implement Microsoft O365 applications, focusing on "digital transformation" and "digital empowerment" to cultivate digital professional skills. The program aims to achieve several key objectives: building cross-functional adaptability and enhancing the digital competencies of the medical team, optimizing organizational culture and processes to create more efficient operational models, and improving both employee and patient experiences to foster a more supportive workplace and healthcare environment. Ultimately, the goal is to increase employee satisfaction and reduce turnover rates. Digital transformation goes beyond technological updates; it is a comprehensive revolution that reshapes organizational culture, optimizes processes, and values employees. This transformation is an essential path for the modern healthcare industry to tackle workforce shortages, enhance service quality, and promote sustainable medical talent development.

Methods

FEMH has adopted Microsoft O365, using Teams, Office, Auto-mate, and low-code tools to enhance digitalization for its 3,648 employees. The transformation is implemented in four phases: 1. Platform Implementation (Oct 2023): Led by a task force from the President's Office, IT, Planning, and HR, with Microsoft Taiwan's support. The Kick-off in November marked the hospital's commitment to digital transformation. 2. Education & Training: A tiered training system, including three Microsoft IT engineers and two department representatives, was established. Conducted hybrid training sessions, expert lectures, programming workshops, and e-learning materials. 3. Project Ideation & App Development: The Maker Presentation System offers rewards for successful projects and engagement. The first Hackathon was held in Feb 2024, with a second planned for Sept, offering NT\$215,000 in prizes. 4. Results Expansion & AI Integration: Employees develop apps with IT support, and AI workshops foster talent. Outcomes are measured through case studies, app development success, and employee satisfaction and turnover rates.

Results

By the end of 2024, all 3,648 full-time employees at FEMH will have Microsoft accounts, enhancing digital conveniences. The hospital has trained 159 IT seed personnel and held 38 training sessions (108 hours), with 4,022 participants, including AI workshops. Microsoft Teams adoption is strong, with 98.3% of account holders joining. Microsoft solutions have been applied in six key areas, including case management, scheduling, quality control, teaching, and research. A total of 139 Teams applications were published across 35 departments, with 68 apps developed from two Hackathons. For example, the ICU shift handover app improved efficiency by 60%, saving 340 hours monthly. The nursing barcode medication app saves up to 30 minutes daily per nurse. Paperless HR and contract applications save 38,962 sheets annually, reducing carbon emissions by 240kg CO₂e. AI applications, such as AI nursing handoffs and medical record summaries, are also in progress. The 2024 Microsoft O365 satisfaction survey results showed an overall satisfaction score of 7.29. Employee turnover intention decreased to 3.40 (down from 3.52 in 2023), and the turnover rate dropped by 6.53% (from 7.16% in 2023). This digital transformation has enhanced employee satisfaction, streamlined workflows, and supported smart healthcare and sustainability goals.

Conclusion

Through education and training, and Maker Presentations, FEMH successfully hosted two Hackathon competitions within a year, encouraging employees to develop apps using Microsoft programs. This reduced the burden on the IT department and helped implement a digital culture. The hospital's digital transformation not only focuses on the adoption of digital tools and technology but also emphasizes talent development and employee digital empowerment. It enables staff to become problem solvers, actively identifying issues and using digital tools to resolve them, reducing manual tasks, increasing efficiency, achieving paperless operations, optimizing resource allocation, and enhancing the employee work experience. Additionally, this initiative has successfully advanced paperless operations, reduced carbon emissions, fostered a friendly ESG workplace, and improved work efficiency and service quality, leading to increased employee satisfaction and lower turnover intentions and rates. FEMH's implementation of Microsoft O365 earned the 2024 National Healthcare Quality Award in the Smart Hospital category and recognition as an "Outstanding Medical Center." The hospital received 16 awards and papers. Peer hospitals, including National Taiwan University Hsin-Chu Branch and etc., have also visited for knowledge exchange. FEMH will continue to deepen innovative applications, setting a new benchmark for digital transformation and empowerment.

Conflicts of interest related to this abstract: None

P-4016

Digital Transformation of Hospital Inventory Management: Implementing a Paperless Checklist System

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Introduction

Digital transformation in hospital inventory management is crucial for improving efficiency, accuracy, and reducing costs. Traditional paper-based systems often lead to errors, delays, and difficulty in tracking stock levels. Implementing a paperless checklist system offers a solution by automating inventory tracking, enabling real-time updates, and reducing human errors. This transformation can optimize procurement, ensure better resource allocation, and enhance patient care by ensuring that necessary supplies are always available. In our healthcare system, moving to a digital checklist system aligns with efforts to streamline operations and ensure compliance with health standards. It can provide a clear audit trail, improve inventory visibility, and reduce wastage, all of which are essential in a high-stakes environment like a hospital, where inventory management directly impacts patient outcomes and hospital performance.

Aim/Objective(s)

The aim of this project is to implement a paperless checklist system for hospital inventory management to enhance operational efficiency, reduce errors, and streamline resource tracking. Key objectives include:

1. Digitization of Inventory Tracking: Replace paper-based systems with digital checklists to automate stock monitoring, reducing human error and manual data entry.
2. Improved Accuracy and Real-time Updates: Enable real-time updates of inventory levels, ensuring accurate data for timely procurement and allocation.
3. Cost Reduction: Minimize wastage through better inventory control and optimized usage of supplies.
4. Enhanced Compliance and Auditability: Create a transparent, auditable process that aligns with healthcare regulations and standards.
5. Overall, the project seeks to improve the efficiency, accuracy, and sustainability of inventory management in the hospital, directly benefiting both operational performance and patient care quality.

Methods

The methodology chosen for this project is a mixed-methods approach, combining quantitative data on inventory efficiency and qualitative feedback from hospital staff. Participants include hospital staff involved in inventory management, including procurement officers, nurses, and department heads. Sampling is purposive, selecting key personnel based on their roles and experience with inventory processes. Data collection will involve a combination of surveys to gather staff experiences with the current system, interviews for in-depth qualitative insights, and inventory audits to track changes in efficiency before and after implementation of the paperless system. The paperless checklist system will be tested in a pilot department to assess initial effectiveness. Tools employed include digital inventory management software, designed to capture real-time data, and statistical software for data analysis. Data analysis will include both descriptive statistics to measure inventory turnover and qualitative thematic analysis to identify staff challenges and improvements post-implementation.

Results

Key findings from the implementation of the paperless checklist system in hospital inventory management revealed significant improvements in operational efficiency and resource allocation. Data collected from pre- and post-implementation audits showed a 30% reduction in inventory discrepancies and a 20% reduction in stock wastage. Real-time updates enabled more accurate procurement, reducing stockouts by 15%. Qualitative feedback from hospital staff, gathered through surveys and interviews, highlighted increased satisfaction due to reduced manual inventory tasks and better visibility of stock levels. Furthermore, compliance with healthcare regulations improved, with the digital system ensuring transparent and auditable tracking of supplies. The mixed-methods approach, combining quantitative data on inventory turnover and qualitative insights, demonstrated the system's effectiveness in streamlining operations, reducing human error, and enhancing decision-making. This paperless system not only optimized resource usage but also contributed to better patient care by ensuring the timely availability of critical supplies. The results support the scalability of digital transformation in hospital inventory management and offer a model for other healthcare institutions to follow.

Conclusion

Implementing a paperless checklist system for hospital inventory management can significantly contribute to health service improvement by optimizing resource allocation, reducing human errors, and ensuring that critical supplies are always available when needed. By automating inventory processes, the system enables real-time updates, improving the accuracy of stock levels and preventing shortages or excess inventory, which can be detrimental in healthcare settings. This directly enhances operational efficiency and patient care, as staff can focus more on patient needs rather than manual inventory tracking. Additionally, this initiative introduces innovative contributions to hospital policy and practice by shifting from traditional paper-based systems to a more sustainable, efficient, and transparent digital approach. It encourages the adoption of technology in healthcare management, aligning with broader trends in digital transformation within the sector. From a research perspective, this project can serve as a model for future studies on the impact of digital tools in improving hospital operations. It can provide valuable data for evidence-based policy-making, offering insights into how technological interventions can streamline processes, reduce costs, and improve healthcare delivery. Moreover, it supports the development of best practices for inventory management in hospitals, promoting scalability and adaptability to various healthcare systems.

Conflicts of interest related to this abstract: None

P-4017

Early Occupational Therapy with Telehealth for Post-discharge High Risk Infants: A Pilot Study

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Introduction

High risk infants (HRI) include babies who are born preterm, with low birth weight, or infants suffering from hypoxic-ischemic encephalopathy. HRI are prone to have complications like developmental delay; and 6.3% of HRI in Hong Kong suffered from cerebral palsy. Currently in Prince of Wales Hospital, face-to-face initial assessment would take place at corrected age (CA) 2 months due to a long waiting time. However, early intervention has been proven to be effective in improving neu-

rodevelopmental function. Therefore, a pilot early post-discharge parental education session was designed and delivered through tele-health to shorten the waiting time, and enhance the access and service efficiency of OT care.

Aim/Objective(s)

1. To evaluate the association between early intervention through telehealth and HRI's cognitive, fine and gross motor development
2. To evaluate the feasibility and satisfaction of the pilot tele-health program
3. To shorten the waiting time between referral date and initial attendance

Methods

10 participants were equally allocated into an intervention and control group by convenience sampling. Intervention group received a new carer education program on home training via HA Go (one-stop mobile application designed by the Hospital Authority) within one month after discharge; whilst conventional care did not. Both groups would receive an assessment at CA 2 months at the clinic. Infant's development would be assessed by Bayley Scales of Infant and Toddler Development 4th Edition in terms of fine motor, gross motor and cognition at CA 2 months and 4 months to observe their progress. A questionnaire was also designed to evaluate the effectiveness and satisfaction of the program. Data collected was analysed by IBM SPSS version 30.0.

Results

Data were analysed by Mann-Whitney U Test to compare the component scores between intervention and control group. Intervention group showed a significantly higher scale score of the intervention group's cognitive ($p = 0.032$) and gross motor ($p = 0.037$) domain at CA 2 months; as well as cognitive ($p = 0.013$) and fine motor ($p = 0.022$) at CA 4 months. Wilcoxon Signed Rank Test were also adopted to understand the difference in the trend of the scores from CA 2 months to 4 months of the 2 groups. There is significant improvement observed in fine motor domain ($p = 0.024$) in the intervention but not control group at CA 4 months after both groups received initial face-to-face treatment when they were CA 2 months. Moreover, results of the questionnaire reported a satisfaction score of 4.8 over 5 in the evaluation. All parents agreed that early intervention increased their confidence in conducting home training. 80% of them agreed that HA Go was easy to use. The waiting time for the initial attendance was shortened from 63 to 25.6 days on average which greatly reduced the waiting time.

Conclusion

In conclusion, this research adds value to the role and importance of early intervention to the development of high risk infants. Early Occupational Therapy intervention provided through caregiver education could improve fine motor and cognitive functions of infants with statistical significance. Moreover, this study also shows that utilising technology to provide training to parents is feasible and preferred by caregivers because the geographical and time limitation of being a newborn parent makes them difficult to attend the appointment at the hospital, thus using tele-rehabilitation approach is user-friendly and effective. As there is no established tele-rehabilitation program for high risk infant parents in Hong Kong, this study could shed light on this approach to further improve rehabilitation for high risk infants in hope to improve infants' functioning. Future studies could consider including a training log to explore whether compliance also affects infants' development.

Conflicts of interest related to this abstract: None

P-4018**Empowering our Workforce to Manage Change using SIMPLE, an In-House Framework for Change Management and Evaluation**

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Introduction

SGH is a leader in adopting smart hospital technologies, such as Telemedicine, IoT, and AI to enhance efficiency and transform care delivery. Recognizing that transformation revolves around people, the Future Workforce Development (FWD) unit designed SIMPLE (Scope, Impact, Meet (Stakeholders), Prepare, Lead and Evaluate), a six-steps Change Management and Evaluation Framework (CMEF) to help our workforce navigating complexities of transformation. The FWD team has successfully employed SIMPLE CMEF to enhance stakeholder engagement and technology adoption across various projects. This structured approach has generated positive results, including increased stakeholder engagement and successful transformation outcomes. Many benefits were reaped from applying SIMPLE CMEF to harmonize people and strategic objectives. Currently, FWD is in the pursuit of empowering SGH people leaders to implement SIMPLE CMEF in their change initiatives. Our goal is to equip our workforce with Change Management tools, one of the must-have competencies to thrive in VUCA world.

Aim/Objective(s)

Through this project, we aim:

1. To establish SIMPLE CMEF as a structured framework that facilitates change through collaborative employee engagement and co-creation.
2. To strengthen our workforce's capability in managing transformational changes while reducing resistance and ensuring alignment with the hospital's strategic initiatives.
3. To develop change management proficiency among people leaders through the application of SIMPLE CMEF, building organizational resilience for navigating the volatile, uncertain, complex and ambiguous (VUCA) environment.

Methods

To achieve our aims, we designed SIMPLE CMEF, an in-house Change Management and Evaluation Framework, and undertook the following steps (based on PDCA cycle) to refine and operationalize the framework:

1. Conducted literature review of existing Change Management models and created a prototype change management and evaluation framework (CMEF) model to be used in the hospital
2. Applied the prototype to complement implementation of technology-based projects
3. Reviewed the project outcomes and identified areas of improvements
4. Refined and finalized the CMEF as SIMPLE CMEF
5. Continued SIMPLE CMEF applications and socialized SIMPLE CMEF to Senior Management through leadership meeting platforms
6. Designed SIMPLE CMEF training workshop and curriculum for middle managers/people leaders

Results

SIMPLE CMEF is built upon three critical change components; Change Commitment (staff commitment to the change), Change Effort (assessment of impact and thus, effort needed to implement change) and Change Efficacy (availability and effectiveness of change resources), to promote adoption and reduce resistance.

SIMPLE CMEF follows a systematic change approach through six stages: Scoping the change, assessing Impact, Meet stakeholders to co-create solution, Prepare resources, Lead implementation and Evaluate to sustain. One SIMPLE CMEF success story was the implementation of an enterprise system for biomedical equipment management, affecting approx. 8,447 users across 153 cost centers. The implementation achieved 100% user adoption within 3 months, with seamless transition to the new repair request process, including urgent cases. However, this implementation revealed a gap; that our workforce's change management capabilities needed improvements, especially at middle-managers level. We thus expanded our mission, to improve the skills and empower our middle managers to manage change using SIMPLE CMEF. We have designed a 2-days workshop on SIMPLE CMEF and receive positive feedback, such as "Class is fantastic and informative. I have been constantly reflecting on how I can apply this model to my work throughout this learning".

Conclusion

In today's rapidly evolving healthcare landscape, we recognize the necessity of bringing our staff alongside the hospital's strategic transformation to enhance efficiency and patient care quality. Change management is one strategy that we can adopt to achieve the synergy. To facilitate this alignment, we have designed and implemented the SIMPLE CMEF (Change Management and Evaluation Framework), which focuses on three key elements: obtaining stakeholder's buy-in, assessing change impact and efforts to change, and ensuring adequate allocation of resources to change. This framework has proven effective in promoting change adoption and minimizing resistance amongst our staff. A key aspect of embedding Change Management practice within our hospital is developing our workforce's capabilities in this area. We started by conducting SIMPLE CMEF workshops targeting middle management and team leaders. Thus far, 44 staff members have completed this training and the workshop is now a permanent training offering in our annual learning catalogue. Looking ahead, we plan to collaborate with key stakeholders to develop an implementation framework that incorporates Change Management principles, maximizing the potential of both our framework and the newly trained Change Agents.

Conflicts of interest related to this abstract: None

P-4019**Enhanced Diagnosis of Ectopic Pregnancy: Validation of Machine Learning Models Using Clinical and Ultrasound Data**

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Introduction

Ectopic pregnancy (EP) is a critical condition in obstetrics, occurring in approximately 2% of all pregnancies, with higher prevalence in emergency settings (6–16%). Accurate diagnosis is essential to prevent severe complications such as tubal rupture and hemorrhage. Traditional diagnostic methods, including transvaginal ultrasound (TVUS) and serum human chorionic gonadotropin (hCG) levels, are often inconclusive. Machine learning (ML), particularly neural networks and Naïve Bayes models, offers potential to enhance diagnostic accuracy by identifying complex patterns in clinical data.

Aim/Objective(s)

This study aimed to evaluate and compare the diagnostic performance of neural networks and Naïve Bayes models for detecting ectopic pregnancies using a real-world dataset of clinical parameters, TVUS findings, and hCG levels.

Methods

A retrospective cohort study analyzed 2,495 first-trimester pregnant women's data from a tertiary hospital's gynecological emergency unit. Inclusion criteria: confirmed pregnancy <13 weeks, documented TVUS reports, and follow-up data. The dataset included risk factors, symptoms, TVUS findings, and serial hCG levels. Preprocessing involved handling missing values, one-hot encoding for categorical variables, and feature scaling. The data was split into training (80%) and testing (20%) sets.

Two ML models were developed:

1. Neural Network (Keras): Input layer (67 features), three hidden layers (20–40 neurons each), and an output layer for binary classification.
2. Naïve Bayes (Orange 3): Default settings with preprocessing steps including feature removal, one-hot encoding, empty column removal, and data normalization.

Performance metrics included accuracy, sensitivity, specificity, F1 score, and AUC. Validation used training/test splits and stratified 10-fold cross-validation to assess generalization capabilities.

Results

The neural network outperformed the Naïve Bayes model in all key metrics:

- Keras Neural Network:
 - The model achieved high performance with an accuracy of 99.4%, sensitivity of 94.6%, specificity of 97.2%, F1 score of 95.9%, and AUC of 99.8%. The confusion matrix showed 194 true positives, 1784 true negatives, 11 false positives, and 11 false negatives.
- Orange 3 Neural Network:
 - Using 10-fold cross-validation, the model demonstrated an accuracy of 98.7%. The confusion matrix revealed 2107 true negatives, 351 true positives, 25 false positives, and 12 false negatives.
- Orange 3 Naïve Bayes:
 - This model achieved an accuracy of 96.5% with 10-fold cross-validation. The confusion matrix showed 2045 true negatives, 362 true positives, 87 false positives, and 1 false negative.

Both Keras and Orange 3 neural networks outperformed the Naïve Bayes model in overall accuracy. The Keras implementation showed slightly better performance than Orange 3, possibly due to differences in preprocessing and model architecture. The Naïve Bayes model, while less accurate overall, demonstrated high sensitivity with only one false negative.

Conclusion

Neural networks offer significant advantages over traditional diagnostic methods for ectopic pregnancy detection. Their integration into clinical workflows could improve early diagnosis and decision-making. Future directions include prospective validation in real-world settings, development of user-friendly interfaces for clinicians, and continuous model updates with new data.

Conflicts of interest related to this abstract: None

P-4020

Enhancing Healthcare Delivery Through AI-Assisted Workflows: A Multi-Sector Study on Efficiency and Quality Improvement

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Introduction

Generative AI (GAI) is revolutionizing healthcare by enhancing operational efficiency, reducing administrative workload, and improving patient care quality. AI copilots serve as digital assistants, streamlining workflows and reinforcing system resilience. As hospitals contend with increasing service demands and workforce shortages, AI solutions provide critical support in alleviating occupational burnout while enhancing healthcare delivery. This study evaluates the implementation of GAI in a Taiwan medical center, examining its impact on clinical workflows, staff workload, and patient safety across multiple departments, including nursing, physician care, pharmacy, nephrology, and nutrition services.

Aim/Objective(s)

This study aims to assess the effectiveness of GAI in optimizing hospital operations across diverse clinical settings. Specifically, it investigates AI's role in enhancing workflow efficiency, minimizing documentation time, and mitigating healthcare professionals' workload. Additionally, the study evaluates AI's contribution to system resilience and patient safety. By analyzing AI adoption across hospital departments, this research provides a comprehensive assessment of both quantitative improvements and the qualitative experiences of healthcare staff, offering insights into the broader implications of AI integration in healthcare environments.

Methods

A mixed-methods approach was employed, combining quantitative performance metrics with qualitative staff feedback. The study was conducted at a Taiwan medical center and assessed GAI's impact across nursing, physician, pharmacy, nephrology, and nutrition services. Data collection included pre- and post-implementation comparisons of documentation time, workflow efficiency, and medication review processes. Surveys and semi-structured interviews were conducted to capture healthcare professionals' experiences, while patient safety indicators were analyzed to assess improvements following AI deployment. The study spanned several months, allowing for a comprehensive evaluation of initial adoption, sustained usage patterns, and long-term effectiveness.

Results

The implementation of AI modules led to a significant increase in utilization, with monthly interactions rising from approximately 10,000 during the pilot phase (November 2023) to over 64,000 by December of the following year, reflecting a growth of more than 400%. AI integration substantially improved workflow efficiency across multiple clinical roles. Among nursing staff, the average time required to compile shift reports decreased from 20–30 minutes per patient handoff to 3–5 minutes, yielding a total time savings of at least 90 minutes per shift for nurses managing 8–12 patients. Physicians similarly experienced a 40–50% reduction in time spent finalizing discharge summaries, primarily due to the AI system's ability to consolidate and highlight critical clinical data – such as laboratory results, vital signs, and progress notes – within a single interface. Pharmacists also reported notable time savings, particularly when managing complex cases involving older adults with 10 or more active prescriptions, estimating a reduction of 15–20 minutes per patient. These findings underscore AI's role

in optimizing clinical workflows, reducing administrative burdens, and improving overall efficiency.

Conclusion

The deployment of GAI at a Taiwan medical center has demonstrably improved workflow efficiency, reduced administrative burdens, and enhanced patient safety metrics. By automating documentation and other labor-intensive tasks, AI copilots have enabled healthcare professionals to devote more time to direct patient care, thereby mitigating clinician fatigue and burnout. The findings highlight the potential of AI-driven solutions to transform hospital operations by supporting healthcare professionals and enhancing service delivery. As the adoption of GAI-powered platforms expands, future research should explore their scalability across diverse healthcare settings, quantify long-term benefits, and establish frameworks for seamless integration into advanced hospital management systems.

Conflicts of interest related to this abstract: None

P-4021

Enhancing Hyperacute Stroke Care Efficiency with Smart Communication and Artificial Intelligence-assisted Imaging Assessment

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Introduction

Stroke is a major health challenge globally. Advancements in technology have provided more treatment options and extended therapeutic window for reperfusion treatments. However, managing hyperacute stroke still requires a race against time. For instance, target for door-to-needle time (DNT) for intravenous thrombolysis is within 60 minutes from patients' arrival at emergency department, and door-to-groin puncture time (DPT) for mechanical thrombectomy is within 90 minutes. Achieving these time metrics is crucial for better functional outcomes. Management of hyperacute stroke involves an interdisciplinary effort from emergency department, stroke team, and interventional radiology. Timely and effective communication is essential for making joint decisions that lead to the best patient management. Traditional communication methods, such as phone calls, can be disorganized, and not all team members may be informed promptly. Additionally, rapid interpretation of radiological images is critical to guide neurologists in deciding appropriate management, which can be a heavy burden for radiologists.

Aim/Objective(s)

The two objectives of the smart stroke project to (1) enhance team communication efficiency via the use of smart communication, and (2) streamline radiological images review via the application of artificial intelligence.

Methods

Tuen Mun Hospital Comprehensive Stroke Care Services has introduced smart communication tool, which is developed by Hospital Authority, alongside locally developed smart stroke application. The communication loop includes neurologists, stroke nurses, interventional radiologists, radiology nurses, and anesthesiologists. The goal is to inform all stakeholders about potential stroke patients who require imaging and treatment, and to facilitate early treatment decisions. Artificial intelligence-assisted radiological imaging screening was also introduced. Commercially available automated computer tomography (CT) screening tool was integrated to hyperacute stroke workflow. All stroke CT brain scans were screened, and stakeholders

could receive emails result of automated intracranial hemorrhage screening, cerebral angiogram screening for major artery occlusion. All time metrics of hyperacute stroke assessment in 2024 was reviewed. Pre and post enhancement data were compared. Primary outcome is percentage of cases with DNT time within 60 minutes and DPT within 90 minutes. Median time of other procedure times were also compared.

Results

The smart communication tool and automated CT screening tool were implemented in local hyperacute stroke care workflow since June 2024. 82.1% of thrombolysis cases (n = 46) achieved DNT within 60 minutes. Compared to pre-implementation period, there was 18% absolute increase in thrombolysis cases achieved DNT within 60 minutes (82.1% versus 64.2%, p = 0.044). Median DNT improved from 55 minutes to 44 minutes. For mechanical thrombectomy DPT, non-statistical significant improvement was observed between pre-implementation and post-implementation period (38.9% vs 39.5%, p = 0.855). Median DPTs were also similar between 2 groups (100 minutes versus 99 minutes). Secondary analysis on improvement of thrombolysis DNT revealed the implementation of smart stroke project reduced median thrombolysis decision time from 45 minutes to 35 minutes. This is achieved by enhanced CT brain reading efficiency with artificial intelligence assistance and more effective communication among team members. The non-statistical significant improvement of mechanical thrombectomy DPT could due to more thrombectomy cases perform during non-office hours after implementation (27 cases versus 22 cases). As non-office hour DPTs also vary by other factors, the effect of the smart stroke project could be difficult to measure.

Conclusion

The introduction of smart stroke application to assist team communication and artificial intelligence-assisted radiological imaging screening could effectively shorten door-to-thrombolysis time for patients suffering from hyperacute ischemic stroke. While the current evaluation reveals non-significant improvement in door-to-groin puncture for mechanical thrombectomy cases, further studies and audit could analysis the potential beneficial effects to the two smart assistants in stroke care. With more advancement in medical related artificial intelligence, the introduction of smart initiatives could also benefit other time-dependent care, including hemorrhagic stroke management, acute myocardial infarction, and even out-of-hospital cardiac arrest. Hospital administrators and technology pioneers could come together to identify and capitalize the potential strengths of artificial intelligence-driven healthcare to improve efficiency and accuracy of medical care to patients.

Conflicts of interest related to this abstract: None

P-4022

Enhancing Outpatient Patient Experience by transforming processes of Invoicing, Queuing and Service fulfillment.

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Introduction

The NH OPD Transformation initiative addresses the challenges in outpatient department (OPD) efficiency within our healthcare system. Given the increasing patient load, prolonged wait times, and administrative inefficiencies, the transformation focuses on streamlining appointment management, optimizing patient flow,

and integrating digital solutions. Our hospital network, committed to accessible and high-quality care, faces operational bottlenecks that impact patient experience and staff workload. This initiative leverages technology, data-driven decision-making, and process improvements to enhance efficiency, reduce wait times, and improve overall service delivery. By implementing solutions such as digital check-ins, appointment scheduling systems, and workflow automation, the transformation aims to create a seamless OPD experience. This not only benefits patients through reduced waiting periods and better service coordination but also supports healthcare professionals by minimizing administrative burdens and allowing more focus on patient care. Ultimately, the initiative aligns with our commitment to delivering timely, efficient, and patient-centered healthcare.

Aim/Objective(s)

The NH OPD Transformation project aims to enhance outpatient department (OPD) efficiency by reducing patient wait times, streamlining appointment management, and improving overall patient experience. The primary objectives are:

1. Optimize Patient Flow – Implement digital check-ins, structured scheduling, and workflow automation to reduce congestion and waiting periods.
2. Enhance Appointment Management – Develop a robust system for seamless booking, cancellations, and rescheduling, minimizing last-minute disruptions.
3. Improve Staff Efficiency – Reduce administrative burdens through digitization, allowing healthcare professionals to focus more on patient care.
4. Leverage Data-Driven Decision Making – Utilize analytics to monitor OPD performance, predict patient trends, and optimize resource allocation.
5. Enhance Patient Satisfaction – Provide a more organized, predictable, and patient-friendly OPD experience.

By integrating these improvements, the project ensures better operational efficiency, ultimately leading to higher quality, more accessible, and patient-centric healthcare services.

Methods

The NH OPD Transformation project employs a mixed-methods approach, combining quantitative data analysis with qualitative insights from patients and healthcare staff. The study involves patients, doctors, administrative staff, and hospital management across multiple OPD facilities. Sampling: A stratified sampling method ensures representation across different specialties and patient demographics.

Data Collection:

- Quantitative: Patient wait times, appointment scheduling efficiency, and workflow metrics collected through hospital management systems.
- Qualitative: Surveys and structured interviews with patients and staff to assess satisfaction and operational challenges.
- Tools Employed:
 - Digital appointment and queue management systems
 - Data analytics dashboards for real-time monitoring
 - Survey tools for feedback collection

Data Analysis: Statistical tools analyze trends in efficiency and patient experience, while thematic analysis identifies recurring qualitative insights. This comprehensive methodology ensures evidence-based improvements for OPD operations.

Results

The NH OPD Transformation project revealed significant improvements in operational efficiency and patient experience. Key findings include:

1. Reduced Patient Wait Times – Implementation of digital queue management reduced average wait times by 35%, from 75 minutes to 49 minutes.

2. Enhanced Appointment Scheduling – Online scheduling and automated reminders decreased appointment no-shows by 28%, improving resource utilization.
3. Improved Staff Productivity – Digital workflow optimization led to a 20% reduction in administrative workload, allowing doctors and nurses to focus more on patient care.
4. Positive Patient Feedback – 85% of surveyed patients reported a smoother check-in process, and 78% noted increased satisfaction with reduced waiting periods.
5. Data-Driven Decision Making – Real-time dashboards identified peak hours, enabling hospitals to adjust staffing, reducing congestion by 30% during high-traffic periods.

These findings, supported by quantitative data from hospital management systems and qualitative insights from staff and patient surveys, demonstrate the effectiveness of digital solutions in optimizing OPD operations. The stratified sampling ensured diverse representation, while statistical and thematic analyses validated the results. This evidence supports further scaling of the initiative across other hospital departments to enhance system wide healthcare efficiency.

Conclusion

The NH OPD Transformation project directly contributes to health service improvement by addressing inefficiencies in outpatient care, enhancing patient experience, and optimizing resource utilization. By reducing wait times, streamlining appointment scheduling, and integrating digital workflows, the project improves service delivery, operational efficiency, and patient satisfaction. This initiative supports evidence-based policy changes, advocating for the widespread adoption of digital appointment systems and real-time patient flow monitoring. The integration of data-driven decision-making allows hospitals to anticipate peak hours, adjust staffing, and reduce bottlenecks, creating a scalable model for healthcare management. In practice, automation of administrative tasks reduces staff workload, allowing healthcare professionals to focus more on patient care. This innovation fosters a patient-centered approach while maintaining efficiency in hospital operations. From a research perspective, this study provides a replicable framework for OPD optimization, contributing to future studies on healthcare process automation, patient flow management, and digital transformation in hospital settings. By addressing the core challenges identified, this initiative serves as a model for sustainable and technology-driven improvements in outpatient care, ultimately enhancing accessibility and quality in healthcare services.

Conflicts of interest related to this abstract: None

P-4023

Enhancing Patient Safety and Clinician Efficiency by Incorporating Transformational Technologies and Analytics: A Data-Driven Approach to Reducing Hospital Acquired Infections

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Introduction

From 2020 – 2022 as the COVID-19 pandemic impacted the health of patients and the community it was also observed that this had an impact on clinicians. This impact affected clinicians both physically and mentally which subsequently had downstream effects on healthcare quality. For our organization there was a significant increase in central line associated blood

stream infections (CLABSI) and catheter associated urinary tract infections (CAUTIs). At the end of 2022 the organization's CAUTI infection rate per 1,000 catheter days was 1.69 and CLABSI infection rate per 1,000 central line days was 1.09. This was related to the already fatigued leadership and clinician teams as well as the acuity level of the patient population. To decrease the incidence of harm caused to patients and the burden to clinicians, streamlining the work to be more efficient and strategic in identifying unit level practice gaps and consistently implementing evidence-based practice (EBP) was necessary.

Aim/Objective(s)

The goals of this work were to:

1. Develop a tool that would allow unit-level clinicians and leaders to be able to observe and document consistency in EBP for CLABSI and CAUTI prevention at the point of care.
2. Automate data capture at the patient level for focused rounding and intervention follow-up.
3. Create a dashboard that would analyze the data at the unit-level to easily identify gaps in practice that required intervention allowing unit leaders and clinicians to be more efficient and strategic in how they addressed decreasing CAUTIs and CLABSI in their patient population.
4. Increase clinician and leader satisfaction by decreasing the administrative burden requirements of proactive infection prevention rounding and allow for connection with patients and families during rounding.
5. Decrease the incidence of CLABSI and CAUTIs within our organization to as to provide patients with safe, high-quality care.

Methods

The methodology chosen for this project was the plan, do, study, act (PDSA) model. An initial assessment of existing tools and how those tools could be integrated into the work was conducted. A review of what software existed to streamline the work was also performed. Based on this assessment 3 distinct software platforms were utilized to meet the objectives:

1. [Clarity] – functioned to pull data from our electronic medical record to pre-populate patient demographic data into the rounding application.
2. [PowerApps] – digital platform to allow patient rounding in a mobile device at the point of care.
3. [PowerBI] – digital platform that provided clinicians and unit leaders real-time practice gap identification and improvement trends over time.

Education on the use of the tools was completed in December 2022 and early January 2023. The project launched within the medical center both in adult and maternal child health patient populations January 23, 2023.

Results

Prior to the launch of these tools rounding for Hospital Acquired Infection (HAI) prevention was not quantitatively captured. Following the project launch there was an average of 2,500 line rounds being conducted a month between unit nursing leaders, clinicians, and infection preventionists. Identified gaps in practice were corrected proactively, opportunities for feedback and recognition of excellence in practice also occurred in real-time. By the end of 2023 our organization had reduced its CAUTI infection rate to 1.33 (a 21% reduction from 2022) and CLABSI infection rate to 0.73 (a 33% reduction from 2022). The organization has been able to maintain these gains throughout 2024 with only a slight increase in the infection rates, but still significantly below those seen throughout 2020, 2021, and 2022. From the perspective of the clinicians through the organization's People Pulse Engagement survey question "[The organization] is effectively applying new technology to enhance my department's performance (new equipment, systems, or processes)" the score increased by approximately 1-2 points since

the launch of the tools and is above the other Southern California region organizations by 1-2 points.

Conclusion

These results demonstrate not only that the departments were able to complete line rounding easily and consistently, but that the proactive approach to addressing CAUTI and CLABSI bundle practice gaps resulted in a decreased incidence of the development of these hospital acquired infections while patients were admitted to the hospital. The occurrence of HAIs can impact patients' length of stay, overall prognosis, and care experience. Utilizing a data-driven approach to reduce these infections through technological tools, digital transformation, and workflows built with a human-centered design approach leads to improved patient outcomes as exemplified by our results. In addition to the impact these tools have for patients, they also decrease the administrative burden to the clinicians and leaders. This contributes to decrease burnout and subsequent turnover. Therefore, keeping in mind how we can allow clinicians, unit managers, and hospital leaders to incorporate transformational technologies to create efficient, streamlined work while also identifying strategic opportunities to address root-causes to clinical challenges is key to the future of healthcare operations.

Conflicts of interest related to this abstract: None

P-4024

Ensure patient safety and improve operating room efficiency with smart operating room management systems.

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Introduction

The incidence of major surgical complications among hospitalized patients in developed and industrialized countries ranges from 3% to 22%, with a mortality rate between 0.4% and 0.8%. Recognizing that nearly half of these adverse events can be prevented through careful analysis. A patient safety checklist has been developed to verify critical steps at various stages of surgical care, including before patient check-in at the OR counter, prior to the administration of general anesthesia, before the surgeon's incision, and before the patient's transfer to the recovery room. The impact of the workflow of the OR on patients, pressure on healthcare professionals that work on the OR, the vast changing work environment and economical constraints make that optimizing the OR is highly prioritized on the academic agenda. Accounting for about 35% to 40% of the costs in OR during the hospital stay contributes to a hospital's finances.

Aim/Objective(s)

TCVGH initiated a medical information and management system that integrated the hospital's IT system, OR management practice and big data to better achieve patient-centered care. The management system is known for the spirit of 3Cs, comprehensiveness, correctness, and Clarity. The integrated surgical intelligent management system provides comprehensive, high-quality, intelligent, and innovative services in six different domains including medical order system, nursing care system, anesthesia order system, supply and logistic system, examination and specimen tracking system and operation room application. The systematic surgical smart service management system aims to establish an operating room management system that is characterized by lean, efficient and innovative practices, guides and informs every step and process starting from the moment the patient decides to undergo surgery.

Methods

The systematic surgical smart service management system integrated a wide array of medical information and management systems, encompassing surgical patient inpatient and outpatient orders, imaging systems, nursing records, examinations, anesthesia assessments, surgical records, infection control records, and surgical procedures. By establishing standard thresholds for all management indices, the smart management system provides timely and visualized feedback to the nursing, anesthesia and surgical teams which in turn improves interdisciplinary cooperation. These records have been organized into six major categories, which include:

1. Surgical Scheduling System
2. Pre-Anesthesia Assessment System
3. Surgical Console System
4. Surgical Instant Dashboard System
5. Operating Room Electronic Whiteboard
6. Surgical Process Tracking APP System

Results

The time-out execution rate is 100%. The punctuality rates for the first regular operations have improved significantly, rising from 78.3% to 95.2%. Additionally, the turnover times between operations have been reduced from 20.1 minutes to 14.6 minutes ($p < 0.01$). Notably, the punctuality rates for emergency surgeries that should commence within one hour after the schedule is confirmed (E1 surgeries) have increased from 82.6% to 100%. As a result, the overall utilization rates of the operating rooms improve from 88.6% to 96.0%. Looking ahead, we are committed to continuing our efforts to pursue the hospital's goal of relentless improvement and delivering high-quality surgical and medical care.

Conclusion

By using intelligent processes to make management information more precise, all discussions and improvements have a basis, and can get to the heart of the problem to make improvements, bringing significant tangible and intangible benefits. In the future, we will continue to use big data computing, machine learning, and artificial intelligence technology to improve the intelligent surgical process, approach the process from the pre-operative, mid-operative, and post-operative angles, and combine patient safety to make the surgical process more accurate and safe, greatly improving surgical efficiency and quality.

Conflicts of interest related to this abstract: None

P-4025

Establishing an Intelligent Language Assessment and Referral Mechanism – Green-Path with AI Screening and Family-Centered Early Intervention

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Introduction

Language delay is a key indicator of developmental disabilities in children. However, current screening tools are inadequate, and medical assessments often require a waiting period of at least six months, causing some children to miss the critical period for treatment. The goal of this study is to develop a smart voice AI screening application that leverages artificial intelligence (AI) technology and interdisciplinary medical integration to identify children in the community who may be at risk of language delay. This aligns with the UN Sustainable Development Goal (SDG) 10: "Reducing Inequality" and promotes the spirit of early detection and intervention.

Aim/Objective(s)

By establishing an intelligent assessment process, this study aims to create a fast and accurate screening model and referral mechanism to improve accessibility to early intervention services, enhance parental knowledge and satisfaction with early intervention, reduce medical evaluation times, and improve healthcare quality and long-term developmental outcomes for children.

Methods

1. Development of an Intelligent Speech Anomaly Screening App

(1)AI Technology: Combining deep learning and speech recognition technologies to build a localized Mandarin Chinese children's speech database.

(2)High-Efficiency Real-Time Screening: The app can complete speech and language screening, providing analyses of common speech error types and severity assessments of speech anomalies.

(3)Cross-Platform Compatibility: It's compatible with mobile phones, and cloud systems.

2. Establishment of the "Early Intervention Language Services Green-Path":

(1)Shortened Medical Evaluation Waiting Times: By introducing an intelligent appointment, Parents can then arrange subsequent early intervention services.

(2)Multidisciplinary Team Intervention.

3. Promotion of Community and School-Based Screening

(1)Widespread Screening Accessibility.

(2)Establishing an online educational resource library.

4. Intelligent Data Management and Clinical Applications

(1)Big Data Analysis: Establishing a standardized database of speech anomalies in Taiwanese children.

(2)Automated Reporting and Tracking System: It's automatically generates reports and provides follow-up recommendations.

Results

1. Improved Screening Efficiency: The intelligent app achieved a screening accuracy rate with an error margin of less than 5% compared to manual diagnosis, completing evaluations within 10 minutes.

- High Diagnostic Accuracy: The AI app demonstrated a consonant correct percentage (PCC) error margin of less than 5% compared to manual diagnoses by speech therapists. This highlights the AI system's high diagnostic accuracy, making it a valuable tool for identifying at-risk children and providing timely intervention to reduce the risk of literacy difficulties in primary school.

- Enhanced Diagnostic Consistency: the AI system provides standardized analyses, reducing inter-rater reliability discrepancies and ensuring stable and reliable diagnostic results.

- Reduced Time Costs: Traditional evaluations by speech therapists take over 30 minutes, whereas the AI system completes assessments in 10 minutes, improving efficiency by 66%.

2. Significant Reduction in Diagnostic Waiting Times: Through the establishment of a "green channel" between community and medical services, the time from screening to obtaining a formal diagnosis has been reduced by 80%, from the traditional six months to within 23 days.

3. Increased Detection Rate of Early Intervention Cases: The app increasing the detection rate of confirmed language development delays from 10% to 16%.

Conclusion

This study demonstrates that the integration of an intelligent speech AI screening app with the "Early Intervention Language Services GreenPath" effectively enhances the early detection and treatment opportunities for children with speech anomalies. It reduces medical evaluation waiting times, optimizes interdisciplinary collaboration, and improves healthcare efficiency and developmental outcomes for children. The AI diagnosis aligns closely with speech therapists' assessments, enhancing the accuracy and consistency of standardized evaluations. This effectively addresses the limitations of traditional language therapy diagnoses, reduces subjective evaluation discrepancies, and enables children to receive professional treatment more quickly. Simultaneously, the establishment of a referral mechanism provides a well-structured intervention model, enhancing parental knowledge and embodying the spirit of early detection and intervention. Future recommendations include expanding the system to other developmental delay screening areas, such as cognitive, motor, psychosocial, or self-care development. This would further establish a comprehensive and intelligent screening program, increase the detection rate of at-risk children in communities, and strengthen the overall integrity and accessibility of the early intervention system for children.

Conflicts of interest related to this abstract: None

P-4026

Evaluation of an Exercise Program in Patients with COPD

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Introduction

Physical inactivity is the fourth leading cause of death worldwide, contributing to over 5 million premature deaths annually. In patients with Chronic Obstructive Pulmonary Disease (COPD), low physical activity is associated with poorer quality of life, increased risk of hospitalization, and higher mortality rates. Although guidelines recommend regular exercise, many COPD patients do not adhere to these recommendations. Digital interventions, such as mobile applications and online platforms, have shown potential in enhancing physical activity and self-care in this population. This study examines the impact of digital tools, including motivational videos at the Point of Care (POC), as innovative strategies to promote physical activity among COPD patients, offering a promising approach to improving their well-being.

Aim/Objective(s)

This study aims to evaluate the impact of a digital-supported physical exercise program, delivered through a responsive web-app platform, on increasing physical activity in patients with Chronic Obstructive Pulmonary Disease (COPD).

As secondary objectives, other key aspects of patient progression following program implementation will be analyzed. These include the perception of dyspnea, changes in respiratory function, modifications in treatment, and anthropometric changes. Additionally, therapeutic adherence, reduction in hospital admissions, and improvements in quality of life will be assessed. This study seeks to provide evidence on the use of digital technology to promote physical activity and enhance the comprehensive management of COPD, offering innovative tools for patient care and self-management.

Methods

This is an interventional, prospective, and controlled study evaluating the impact of a digitally supported physical exercise program in patients with Chronic Obstructive Pulmonary Disease (COPD). A total of N = 140 patients over the age of 18 will be included, recruited from Primary Care and Pulmonology consultations. Participants will be divided into an intervention group, which will use a digital platform with activity monitoring and motivational messages, and a control group without access to the intervention. Clinical, anthropometric, and functional data will be collected through medical history, physical examination, spirometry, and validated questionnaires. Follow-ups will be conducted at 3, 6, and 12 months to assess changes in physical activity, respiratory function, treatment adherence, hospitalizations, and quality of life. Statistical analysis will be performed using SPSS, including parametric and non-parametric tests to evaluate the program's effectiveness.

Results

We anticipate that the digital-supported exercise program will result in:

- Increased adherence to physical activity recommendations in COPD patients.
- Reduction in dyspnea perception and improved lung function over time.
- Lower hospitalization rates and improved treatment adherence.
- Positive anthropometric changes, including better weight management.
- Enhanced quality of life as measured by validated questionnaires

This study will provide strong evidence supporting the integration of digital health tools in COPD management, reinforcing their role in patient empowerment, disease control, and healthcare efficiency.

Conclusion

Physical inactivity in patients with Chronic Obstructive Pulmonary Disease (COPD) is a critical factor associated with poorer quality of life, increased risk of hospitalization, and higher mortality. This study proposes an innovative intervention based on a digital platform that promotes physical activity through monitoring and personalized motivational messages. The implementation of this approach could significantly improve adherence to physical activity, optimizing COPD management and reducing the healthcare burden on health systems. By demonstrating the effectiveness of digital tools in promoting self-care, this study may influence the development of new care strategies that integrate technology into respiratory rehabilitation. From a health policy perspective, the results could support the integration of digital platforms into public health programs, expanding access to home-based rehabilitation. In clinical practice, this approach could drive the personalization of treatments based on objective data, fostering more effective and sustainable interventions. Finally, this study may provide key evidence for research on the use of digital technologies in chronic respiratory diseases, paving the way for future innovative strategies to improve patients' quality of life.

Conflicts of interest related to this abstract: None

P-4027**Exploring the Impact of Artificial Intelligence on Hospital Services in Puerto Rico: Analyzing Opportunities and Challenges in Healthcare Administration**

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Introduction

Puerto Rico, the smallest of the four Greater Antilles, has experienced noteworthy changes in its healthcare system. Since the early twentieth century, the government's Department of Health managed population health services. However, a significant reform in 1993 led to the privatization of healthcare, redefining the responsibilities of public and private sectors. In the present day, Puerto Rico's healthcare industry aims to attract patients but must also address the challenge of modernizing its communication strategies. Although 79% of the population has internet access, many healthcare institutions cannot adopt advanced technological tools on their official websites. A recent descriptive study of 26 out of 68 hospital websites revealed that only 30% utilized social media – mainly for advertising – highlighting a missed opportunity for interactive patient engagement. Most hospitals still depend on static websites, limiting the dynamic interaction needed to promote community health and strengthen patient relationships effectively.

Aim/Objective(s)

This study seeks to identify and analyze the extent to which hospitals in Puerto Rico, differentiated by ownership, are employing AI for online appointment scheduling and to examine how such technologies are integrated into service marketing and community engagement strategies. AI-driven appointment scheduling can streamline patient interactions, reduce waiting times, and enhance overall operational efficiency, yet its implementation across Puerto Rico's healthcare landscape remains unclear. By comparing public and private hospitals, this research aims to highlight the best practices, shed light on existing barriers to adoption, and provide insights into how AI tools can be leveraged to strengthen patient-centered care and improve community outreach.

Methods

A simple random sample of 26 hospitals was drawn from the 2024 Puerto Rico Health Department Hospital Registry, which listed 68 hospitals. These facilities were grouped by ownership – private for-profit, private not-for-profit, and public – and their official websites were systematically reviewed. The review focused on identifying social media integration (e.g., Facebook, Instagram, Twitter), AI-driven tools (e.g., chatbots or automated patient navigation systems), and online appointment scheduling features. Each variable was recorded as present (1) or absent (0), allowing for comparative analysis across ownership categories and providing insights into the overall state of digital engagement in Puerto Rico's healthcare sector.

Results

Hospitals in Puerto Rico displayed varying levels of social media engagement. Private hospitals generally outpaced public hospitals, with notable differences between for-profit and not-for-profit institutions. Facebook was the most popular platform overall (90%), but not-for-profit hospitals showed the highest adoption rate (73%). For-profit hospitals favored Instagram, while public hospitals had the lowest social media presence. However, none of the hospitals studied used a chatbot to help patients navigate through the page, and appointments could not be scheduled.

Conclusion

This descriptive study reveals that while Puerto Rican hospitals – particularly not-for-profit institutions – show some engagement with social media, they primarily rely on Facebook and thus miss broader opportunities for customer service, improved care, community building, and cost-effective marketing. Notably absent were AI-driven solutions, such as chatbots or online appointment scheduling systems, underscoring the potential for expanding digital engagement strategies. Future research should explore how social media platforms can enhance health education, address patient privacy concerns, and evaluate the impact of AI innovations on patient outcomes and operational efficiency in Puerto Rico's healthcare sector.

Conflicts of interest related to this abstract: none

P-4028**From Manual to Magnificent: Revolutionizing Hospital Key Indicators through Power BI Integration**

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Introduction

In today's data-driven healthcare landscape, timely access to accurate performance metrics is crucial for informed decision-making and quality improvement. The Medical Affairs - Clinical Governance (MA-CG) department at NUH faced significant challenges with manual data analysis and reporting of key performance indicators. This inefficient process, affecting metrics like Discharge Before Noon (DBN) and Emergency Department Inpatient Definitive Care (ED IDC), led to delayed data access, increased error risk, and limited cross-departmental data visibility. To address these issues, NUH initiated a transformative project leveraging free Microsoft product, Power BI Desktop, to create automated, interactive dashboards. Starting with the DBN and expanding to multiple other indicators, this initiative aimed to revolutionize healthcare data management, enhance operational efficiency, and foster data-driven decision-making across the 1,200-bed facility by streamlining workflows and empowering staff with timely, accurate, and accessible data.

Aim/Objective(s)

The project aimed to:

- Automate the compilation and reporting of key performance indicators, starting with DBN and expanding to other metrics.
- Reduce time spent on manual data processing and analysis by at least 75%.
- Improve data accessibility and timeliness across departments.
- Enhance data accuracy by minimizing human errors in calculations, data entry and analysis.
- Empower staff with self-service analytics abilities, reducing dependency on the MA-CG team for routine reporting.
- Provide interactive, customizable visualizations to support data-driven decision-making.
- Foster a culture of data-driven quality improvement initiatives across the hospital.
- Improve key performance metrics, such as DBN rates, through better data visibility and analysis.
- Demonstrate the scalability and cost-effectiveness of Power BI solutions in a complex healthcare environment.
- Support NUH's ongoing efforts for digital transformation and improved patient outcomes

Methods

The project was implemented through a phased approach:

Initial Development: Self-initiated learning of Power BI and creation of the DBN dashboard.

Pilot Implementation: Introduction of the DBN dashboard to 13 initial focus wards.

Training and Support: Guidance on software installation and dashboard usage provided to end-users. Gradual Rollout: Expansion of access across wards and departments. Continuous Improvement: Regular updates and new visuals creation based on user feedback. The project utilized free Microsoft Power BI Desktop software, installed by IT support via ePAS request. Data source: Epic data reports. Stakeholder engagement was crucial, involving:

- MA-CG team – led initiative, developed dashboards, provided support
- IT – assisted with software installation
- End-users – provided feedback on usability and data needs
- Leadership – supported initiative and promoted adoption

Results

The implementation of Power BI dashboards yielded significant improvements:

Data Accessibility and Coverage:

- Expanded from 13 to 47 wards (261.5% increase)
- 100% coverage across all disciplines and departments
- Significant reduction in ad-hoc data requests

User Adoption:

- From 13 initial wards to over 70 key users across all departments

Performance Improvement:

- DBN rates improved from 20.8% (2023) to 25.6% (2024), a 23% increase
- Oncology department improved DBN rates from 9.1% to 16.1% (76.9% increase)

Efficiency Gains:

- Data compilation time reduced by 94% for DBN (from 1 workday to 30 minutes)
- 88% reduction in processing time for ED IDC indicator

Scope Expansion:

- Increased from 1 to 5 indicators (300% expansion)

Workforce Transformation:

- Shift to self-service model across departments
- Redefined roles for MA-CG staff, moving from routine reporting to high-value tasks

Cost-Effectiveness:

- Significant improvements with minimal additional costs, utilizing existing IT infrastructure

These results demonstrate substantial improvements in data management, accessibility, and utilization, leading to enhanced operational efficiency and data-driven decision-making across NUH.

Conclusion

The implementation of Power BI dashboards has revolutionized MA-CG's data management, marking a significant step towards digital transformation. By automating key indicators and providing interactive, self-service analytics, the project has dramatically improved data accessibility, accuracy, and utilization across the organization. The success of this initiative extends beyond mere efficiency gains. It has fostered a culture of data-driven decision-making, empowering staff at all levels to engage with performance metrics and drive quality improvement initiatives. The significant improvements in key indicators, such as the DBN rates, demonstrate the tangible impact on hospital operations and patient care. Looking forward, the scalability and cost-effectiveness of this solution facilitate continuous improvement. The tool's potential for direct integration with

source systems and the development of AI-powered predictive visuals present exciting areas for future exploration. This project serves as a model for other departments at NUH, showcasing how leveraging existing technologies can lead to transformative changes in data management. It aligns with hospital's initiatives for digitalization and sets a new standard for data-driven excellence in patient care. The NUH experience underscores the potential of digital solutions to enhance operational efficiency, improve patient outcomes, and drive continuous improvement in healthcare delivery.

Conflicts of interest related to this abstract: None

P-4029

GIBI: A Comprehensive Platform Empowering Healthcare Professionals and Managers to Achieve Strategic Objectives in Girona Hospitals

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Introduction

The professionals of the Girona Strategic Alliance Hospitals (GSAH), comprising the Dr. Josep Trueta University Hospital and the Institute of Healthcare Assistance, along with their expertise and talent, are the institution's greatest asset. These professionals span all lines of care, including primary care, specialized care, social healthcare, mental health and also managers. Their knowledge drives continuous advancements in delivering high-quality, safe healthcare services. To boost efficiency and improve the resolution process, our regional management has committed to engaging healthcare professionals in organizational decision-making. This participatory approach aims to create a more effective system that ultimately improves service delivery to citizens. In this context, the Girona Business Intelligence (GIBI) platform was launched in 2016 as an integrated dashboard to support strategic objectives within the GSAH and all its lines of care. GIBI provides healthcare professionals and managers with accessible, structured, and relevant data to improve decision-making processes and optimize resource allocation.

Aim/Objective(s)

GIBI's main purpose is to gather information from multiple sources and make it easily available to users according to their profiles in a customized format facilitating data-driven decision-making for healthcare professionals and managers within the GSAH. By providing an intuitive web-based platform, GIBI enables service heads, clinical directors, nursing supervisors, and primary care managers to access clinical, economic, and human resource data efficiently. This system aims to identify improvement opportunities in healthcare service quality, efficiency, and overall performance. The platform also seeks to foster transparency and personalization in the decision-making process, ensuring that managerial staff can rely on real-time, evidence-based insights.

Methods

GIBI is designed as a web-based dashboard integrating corporate information systems that compile clinical, financial, and human resource data. The system includes sentinel indicators to track healthcare activity, quality, and efficiency across hospitals. Data visualization tools enable users to identify trends and

compare hospital and service performance against similar institutions. The platform's development involved continuous feedback collection to adapt it to evolving managerial needs.

Results

Since 2017, GIBI has supported more than 62,000 connections, 72% of which correspond to the hospital and 28% to primary care. In terms of professional categories, 55% of the users are healthcare professionals (26% doctors, 29% nurses), 27% are healthcare managers, 15% are administrative staff and 3% technicians. GIBI has demonstrated significant improvements in data accessibility and decision-making efficiency. The platform allows to monitoring of key performance indicators in real time, leading to better resource allocation and service optimization. The integration of clinical and financial data has facilitated a comprehensive view of hospital operations, enabling targeted interventions to enhance service quality. Users have reported increased transparency and ease of use, contributing to more informed decision-making. Benchmarking capabilities allow for performance comparisons with similar hospitals, fostering continuous improvement. The adoption of GIBI has also led to a cultural shift towards data-driven management within the GSAH. In 2019, GIBI expanded its implementation and was adopted by other two hospitals within the Catalan Health System. Likewise, in 2022, the dashboard was updated to a new version, including many enhancements such as a streamlined and user-friendly interface, better search engine, highly customizable user environment, and backend management.

Conclusion

GIBI represents an innovative approach to healthcare management by providing a centralized, user-friendly platform for data-driven decision-making. Its implementation has significantly improved transparency, efficiency, and service quality within Girona's hospitals. By enabling professionals and managers to monitor and analyse healthcare activity comprehensively, GIBI contributes to the continuous optimization of hospital and primary care operations. This initiative highlights the importance of integrating business intelligence into healthcare policy and practice. The ongoing refinement of the platform, based on user feedback, ensures its alignment with emerging healthcare challenges. Future developments could include expanding its predictive analytics capabilities to further enhance decision-making processes and improve patient outcomes.

Conflicts of interest related to this abstract: None

P-4031

Health Information System HIS Our project presents a novel HIS designed using Python and Django

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Introduction

Hospitals and healthcare institutions worldwide face increasing demands for efficient, data-driven operations while maintaining high-quality patient care. Digital transformation, particularly through advanced Health Information Systems (HIS), plays a crucial role in addressing these challenges. Our project presents a novel HIS designed using Python and Django, integrating HL7 standards to ensure interoperability and improve clinical and operational outcomes. As both a surgeon and a full-stack Python developer, I bring a unique perspective to this project. My deep understanding of clinical workflows, patient care, and hospital operations, combined with my expertise in software architecture, data security, and AI-driven analytics, allows me to bridge the gap between medicine and technology. This dual expertise ensures that the system is clinically relevant,

technologically robust, and user-friendly, providing significant advantages over solutions developed by purely technical teams.

Aim/Objective(s)

Develop a fully integrated HIS covering patient records, appointments, pharmacy, laboratory, radiology, and other critical hospital functions.

- Enhance clinical decision-making through structured clinical models that improve quality and safety.
- Utilize data-driven approaches for workflow optimization and patient experience enhancement.
- Ensure seamless interoperability with external healthcare systems via HL7 standards.

Methods

The HIS was developed using Python and the Django Framework, ensuring scalability, security, and flexibility. HL7 compliance was embedded to facilitate standardized data exchange between different healthcare entities. The system incorporates AI-powered analytics to enhance hospital operations, optimize resource allocation, and support clinical decisions. Security measures such as role-based access control and compliance with HIPAA/GDPR regulations were implemented to protect sensitive patient data. Rigorous validation and usability testing were conducted in collaboration with healthcare professionals.

Key Features:

- Unified Patient Record: Provides a single medical file accessible across all hospitals using the system.
- Patient Registration and Demographics: Ensures accurate identification and record-keeping.
- Appointment Scheduling: Reduces wait times and optimizes resource allocation.
- Pharmacy Management: Enhances medication safety with inventory control and drug interaction alerts.
- Laboratory Information System (LIS): Manages test requests, results reporting, and quality control.
- Radiology Information System (RIS): Facilitates radiology order management and reporting.
- Interoperability: HL7-based data exchange for seamless system integration.

Results

Improved efficiency in hospital workflows, reducing administrative burdens.

- Enhanced data accuracy and accessibility, leading to better clinical decision-making.
- Seamless interoperability with external healthcare systems, ensuring continuity of care.
- Increased patient engagement through digital access to medical records and appointment scheduling.
- Reduction in medication errors and improved inventory accuracy in the pharmacy module.
- Measurable improvements in appointment adherence rates and reduced patient wait times.

Conclusion

The implementation of a Python-Django-based HIS, adhering to HL7 standards, demonstrates significant improvements in hospital operations, patient safety, and clinical efficiency. The inclusion of a unified patient record system ensures that all hospitals using the platform have a comprehensive, single view of each patient's medical history, improving continuity of care and decision-making. My combined expertise as a medical professional and software engineer has been instrumental in ensuring that the system is both clinically relevant and technologically advanced. This project showcases how digital transformation can drive healthcare excellence by integrating AI, data analytics, and interoperability solutions. The open-source nature of

the system ensures adaptability and cost-effectiveness for healthcare facilities worldwide.

Conflicts of interest related to this abstract: None

P-4032

IDENTIFYING AND ANALYZING THE LOSS TO FOLLOW-UP RATE IN OUTCOMES MEASUREMENT: A PATHWAY TO ENHANCING VALUE-BASED CARE

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Introduction

Managing loss to follow-up (LTFU) rates in measuring health outcomes is a key challenge for providing patient follow-up within a value-based care basis. Currently, there is no consensus on an acceptable or predictable level of LTFU rate. Recent literature suggests that in patient-reported outcomes measurements (PROMs), the initial LTFU rate is around 30% and may exceed 35% in the first year of follow-up (1). However, it is still uncertain how this rate varies according to determining factors such as the patient's clinical condition, outcome taxonomy, and measurement instruments and methodologies. Given this uncertainty, the present experience seeks to characterize the LTFU rates in outcomes measurement at Fundación Santa Fe de Bogotá (FSFB). Understanding these patterns is essential for optimizing clinical and operational management, by: 1) enhancing measurement scheduling to ensure representativeness and minimize selection biases that may affect clinical decision-making, and 2) strengthening capacity for adequate measurement of outcomes.

Aim/Objective(s)

This experience aims to identify and analyze the LTFU rate in outcome measurements for patients treated at the Fundación Santa Fe de Bogotá, examining its variation based on baseline clinical condition, outcome type (clinical or patient-reported), measurement modality (telephone or in-person), and follow-up nature (distinguishing between outcomes measured at a single time point and those requiring repeated measurements over time). Through this oral presentation, we will share the results of this experience, providing insights into a relatively unexplored topic within outcomes measurement. Our focus is to discuss how to ensure value-based care in follow-up management, through an innovative technological strategy.

Methods

To identify and analyze the LTFU rate, we developed a detailed analysis of the outcome measurement data available in the corresponding digital ecosystem of FSFB. This required a methodological process divided into two main phases:

1. Operational definition of the LTFU rate: We defined the LTFU rate as the percentage of ineffective measurements among eligible patients at a given time. Exclusion criteria included patients ineligible due to death, lack of consent, insufficient time for measurement, clinical limitations, or language barriers.
2. Data identification and analysis: We defined key variables to analyze and characterize the LTFU rate, including clinical segmentation, patient count, measurement scales used, outcome type (clinical or patient-reported), measurement modality (telephone or in-person), follow-up frequency (single vs multiple), and response effectiveness. A dynamic business intelligence dashboard was created for real-time visualization of LTFU rate and its variations according to the established variables.

Results

After three years of outcomes measurement at FSFB, we have identified an overall LTFU rate of 20.6% for programmed measurements, with a 5.5% data exclusion rate due to patient ineligibility.

Four key aspects define LTFU rate variation:

1. Differences by clinical condition. The overall LTFU rate ranged from 0% to 46.8% among the different clinical conditions, with Parkinson's and Neurovascular diseases being those with the most significant LTFU rates and Abdominal Surgical Conditions and Gynecological Diagnoses with 0% LTFU rates.
2. Influence of the type of outcome and measurement modality. The LTFU rate in clinical outcomes extracted from medical records was 9.23%. In PROMS varied between 25.7% and 37.7% depending on the application modality (telephone: 32.02% or in-person: 10.6%).
3. Impact of the follow-up nature. Outcomes measured at a single time point had a LTFU rate ranging from 0% to 8.3%. In comparison, LTFU rates for multiple time-point measurements varied from 7.6% to 44.6%, increasing with longer follow-up (Appendices, Figure 1).
4. Main LTFU causes. The most frequent reasons for LTFU were the failure of the professional to record information in the agreed source, representing 23% of losses; difficulties in telephone contact (18%); and non-attendance to follow-up appointments (15%).

Conclusion

Through this experience, we managed to identify and analyze the LTFU rate in measuring outcomes through an innovative technological solution, addressing a key information gap in this area. As a result, this opens a path to optimize the analysis of response effectiveness in outcome measurement and to drive strategic actions to strengthen the delivery of value in healthcare. Based on the findings, it is important to consider strategies to increase the response rate, such as diversifying measurement methods, adjusting the patients' data collection environment through an omnichannel approach, and encouraging greater adherence of clinical groups to outcome measurement. Further studies are needed to 1) analyze how knowledge of the LTFU rate contributes to clinical management and 2) explore how this rate varies by sociodemographic factors not considered in this project (i.e. gender, age, socioeconomic level, geographic origin), to strengthen equity in outcome measurement.

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Conflicts of interest related to this abstract: None

P-4033**Impact of Tele-Critical Care on Neonatal Intensive Care Units: Augmented Teleconsultation and Real-Time Monitoring Experience**

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Introduction

Telemedicine in neonatal intensive care units (NICUs), also known as tele-critical care (TCC), is utilized increasingly for teleconsultations to improve critical care outcomes. These include crucial indicators like discharge planning, bed occupancy, and neonatal mortality rates. However, its impact remains uncertain.

Aim/Objective(s)

To assess the impact of TCC interventions on NICU discharge rate, bed occupancy and neonatal mortality.

Methods

An uncontrolled retrospective interventional descriptive study of 22-month duration (January 2021–October 2022) was performed at a public hospital in Najran, Saudi Arabia. The TCC was implemented as a scheduled care model, which allowed an intensivist to conduct daily rounds, providing overnight on-call support and critical care consultations on a per-need basis. Real-time monitoring of outcomes including mortality rates, discharge rates, and bed occupancy levels was employed by the National Healthcare Command Center.

Results

Implementation of the TCC program was associated with a 10.7% reduction of the neonatal mortality rate, with the neonatal mortality rate decreasing from 10.3 to 9.2 deaths per 1,000 live born. Moreover, the discharge rate was 0% in the early months of running the TCC program but progressively increased to 34.12% after 4 months, despite bed occupancy rates tending to rise. However, mortality rates did not differ significantly between pre- and post-TCC periods ($M = 9.74$, $SD = 4.32$ vs. $M = 10.28$, $SD = 7.99$, $p = 0.856$; 95% CI: -5.58 to 6.66).

Conclusion

TCC use in virtual scheduled consultations, with a supporting real-time dashboard, significantly aided in the management of neonatal mortality and discharge rates. However, additional studies with extended follow-up periods are required to investigate other significant applications, including physician acceptance and TCC impact on logistics and resource management.

Conflicts of interest related to this abstract: None

P-4034**Implementation of digital and computational pathology in the laboratory network of Clinica Colsanitas**

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Introduction

Pathology studies are becoming increasingly complex and require a high level of specialization from pathologists to ensure accurate diagnoses that enable clinicians to provide appropriate patient treatments. In Colombia, there is a significant limitation in the training of subspecialist pathologists, as currently, there is only one formal sub specialization program within university institutions in the country. This situation greatly reduces the availability of specialists, making it difficult for patients to access advanced and timely diagnoses, especially in remote regions. The laboratory has implemented an innovative strategy for digitizing histological slides in anatomical pathology to address these challenges. This solution enables the immediate transfer of digital images, facilitating second opinions with subspecialist pathologists and the prompt interpretation of immunohistochemistry studies without transporting physical materials. Additionally, it significantly optimizes turnaround times and allows for the remote coordination of medical boards for image evaluation, ensuring expert opinions are accessible without traditional geographical limitations.

Aim/Objective(s)

Implementing a digital pathology network and a computational pathology service within the laboratory will ensure equitable and efficient access to specialized diagnostics for complex anatomical pathology cases. This initiative enhances diagnostic accuracy, streamlines operational efficiency, and accelerates turnaround times in patient care, particularly in a healthcare market where access to specialized services remains challenging in remote and underserved areas.

Methods

The project has been developed in three phases. The first phase was the planning stage, during which benchmarking activities were carried out with leading international institutions in digital pathology. At that time, no local institutions had available digitization tools. The second phase involved implementation, which included installing scanning equipment, software, and display screens and setting up dedicated internet channels. During this stage, training was provided to the technical staff responsible for scanning histological slides and to pathologists on the use of the new tools. The strategy project is currently in its third phase, focused on creating a computational pathology unit. This unit, led by an expert pathologist, will drive the development of diagnostic algorithms for routine analysis and enhance research in the field. Additionally, ongoing monitoring has been conducted to assess the strategy's impact on quality and timeliness indicators.

Results

Timeliness Compliance: Implementing digital pathology in one of the laboratory sites resulted in a 12% increase in compliance with the timeliness indicator. No additional interventions were carried out that could have influenced the outcome. This improved performance is attributed to the immediate availability of images for interconsultation among subspecialist pathologists. In the case of sites in more remote cities, the timeliness of receiving immunohistochemistry techniques improved by 24 hours.

Availability of Images for Scientific Events and Publications: The high quality of images obtained through digital pathology has enhanced their visibility in publications and presentations at scientific events, highlighting the excellence of the work performed. This advancement has also significantly boosted research and education, benefiting undergraduate and postgraduate students by providing high-quality visual material with strong academic relevance.

Remote Pathologist Meetings: Digital pathology has facilitated real-time meetings between specialist and subspecialist pathologists in different cities nationwide. This functionality enables the agile and efficient discussion of complex cases that require joint analysis, eliminating geographical barriers. In addition to optimizing the management of these cases, remote meetings have fostered a valuable space for academic discussion and knowledge exchange, benefiting the training and education of undergraduate and postgraduate students in a high-level collaborative environment.

Conclusion

The primary scope of the digital pathology tool is to optimize case management for diagnosis within the laboratory workflow. It enables subspecialist pathologists to view histological images remotely, view histological images remotely and efficiently manage immunohistochemistry studies, eliminating the need for physical slide transportation. This innovation significantly reduces turnaround times and minimizes the risk of material damage, positively impacting diagnostic quality and patient care. Additionally, this project has fostered stronger integration within medical practice through:

- Medical board interactions: Facilitates real-time collaboration between pathologists and multidisciplinary teams specializing in oncological pathologies, improving complex clinical decision-making.
- Academic development: Enhances the training of undergraduate students and medical residents in postgraduate programs by providing access to advanced digital resources and high-quality cases for learning.
- Knowledge production and dissemination: Digitalization enables the publication of high-resolution images in educational materials, scientific research, and other outreach initiatives, contributing to advancing pathology at both national and international levels.
- Innovation: The tool paves the way for using images as input for artificial intelligence algorithms, which has potential applications in routine practice.

In summary, implementing this tool has not only improved diagnostic efficiency and accuracy but also expanded its benefits to academic development, interdisciplinary collaboration, and technological innovation.

Conflicts of interest related to this abstract: None

P-4035

Improving Hospital Vendor Management through Compliance Review Enabled with Data Analytics (CReDA)

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Introduction

NUHS has utilized outsourced partners to enhance operational care delivery in areas such as housekeeping, linen, laundry, security, and facilities management. These services are crucial for maintaining patient care standards and ensuring a positive

patient experience. However, NUHS faced challenges in assessing partner performance, often relying on manual reviews of vendor reports, which could delay the detection of service lapses affecting patient care. To address these issues, NUHS developed the Compliance Review enabled with Data Analytics (CReDA) initiative to simplify and automate the manual compliance review process, to improve productivity and efficiency. CReDA has been implemented across various domains, leading to better vendor management and Key Performance Indicator (KPI) tracking. With better vendor management and KPI tracking, this promotes swift detection of service lapses and intervention for service recovery, ultimately improving patient satisfaction.

Aim/Objective(s)

The objectives of CReDA are to achieve productivity gains via reducing time required for compliance reviews and to eliminate human errors and omissions during manual data computation. Through development of a series of automation tools catered to each vendor report or each KPI tracked, CReDA aims to enable effective monitoring of vendor performance, ensuring delivery of service level agreed.

Methods

CReDA leverages the capabilities of Microsoft Visual Basic for Applications (VBA) and the development of CReDA tool follows a three-step process:

1. Design: Developers engage with process owners through interviews to gain insights into the current processes and gather essential requirements. The scripts are customized to meet the specific needs of each process owner while being adaptable for use across various institutions within the cluster wherever feasible.
2. Test: Upon developing the VBA scripts, developers conduct thorough testing and validation to ensure usability, functionality, and accuracy. Developers then seek feedback from process owners to make iterative enhancements in an agile approach.
3. Deploy: CReDA tools are provided to end-users along with training sessions to promote effective adoption and usage. When end-users take ownership of the tools, they tend to be more responsible and motivated to utilize them effectively.

Results

The automation of vendor KPI re-computation in CReDA projects has significantly transformed operational efficiency within the organization. By reducing the time required to perform vendor KPI review by an impressive 99.5%, with significant man-hours saved annually across various departments. This reduction in administrative workload allows staff to redirect their efforts, enhancing the overall quality of service provided to patients. Moreover, the increased accuracy of vendor KPI assessments and tracking enables NUHS to intervene early when any lapse is detected, ensuring that any performance issues can be addressed promptly. This proactive approach not only improves vendor performance but also contributes to better patient care outcomes.

Conclusion

While CReDA has achieved notable improvements in productivity and efficiency, the sustained adoption of its tools is essential for fostering genuine change within the organization. To ensure long-term sustainability, CReDA was developed with a user-centric approach that prioritizes ease of use and accessibility. The choice of Microsoft VBA was intentional, as the programming environment is already integrated in the Microsoft Office applications, making it easy for staff with varying levels of technical proficiency to learn and utilize effectively. The tools are designed so that end users only need to click on a few buttons,

and everything is computed automatically for them, streamlining the process further. By doing so, CReDA contributes to manpower sustainability in the healthcare industry, which is consistently challenged by manpower shortage. Looking ahead, the adaptability and flexibility of CReDA positions it well to evolve alongside changing business needs. This capability not only allows for continuous improvement but also opens the door for potential expansion into additional functional domains. CReDA's simplicity bolster sustainable adoption, ensuring that it remains as an asset in driving operational excellence and supporting the overall mission of delivering high-quality patient care.

Conflicts of interest related to this abstract: None

P-4036

Improving Research Grant Management Process through Compliance Review Enabled with Data Analytics (CReDA)

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Introduction

As a leading Academic Health System, NUHS integrates exceptional patient care with innovative medical education and research. To maintain its leadership in healthcare innovation, NUHS actively pursues substantial research grants, to further medical knowledge and to enhance patient outcomes. With a vast portfolio of research projects funded by multiple grantors, managing this extensive list of grants poses significant challenges, as the research grant processes remains highly manual and fragmented across multiple grantors. To address these issues, NUHS developed the Compliance Review enabled with Data Analytics (CReDA) initiative to simplify and automate the grant management process, to improve productivity and efficiency. CReDA has been implemented across various domains, to improve research grant management and Key Performance Indicator (KPI) transparency across all grantors. By enhancing grantor visibility and KPI tracking, NUHS can streamline its research grant management process, ensuring compliance and improving access to state-of-the-art treatments for NUHS's patients.

Aim/Objective(s)

The objectives of CReDA are to achieve productivity gains by reducing the manual tracking required for grant submission deadlines, and to eliminate human errors and omissions during the manual downloading of grantors' data across multiple grantor platforms. Through the implementation of a grant management dashboard and automated email function in the tool developed, CReDA aims to enable effective monitoring and tracking of grantors' performance in the research grant submission process

Methods

CReDA leverages the capabilities of Microsoft Visual Basic for Applications (VBA) and the development of CReDA tool follows a three-step process:

1. Design: Developers engage with process owners through interviews to gain insights into the current processes and gather essential requirements. The scripts are customized to meet the specific needs of each process owner while being adaptable for use across various institutions within the cluster wherever feasible.
2. Test: Upon developing the VBA scripts, developers conduct thorough testing and validation to ensure usability, functionality, and accuracy. Developers then seek feedback from process owners to make iterative enhancements in an agile approach.

3. Deploy: CReDA tools are provided to end-users along with training sessions to promote effective adoption and usage. When end-users take ownership of the tools, they tend to be more responsible and motivated to utilize them effectively.

Results

The grant management dashboard and automated email feature that aids in the follow-up with key stakeholder in the grant process has significantly transformed the way the Research Office manages its research grants. Through streamlining the process of converting raw data into actionable insights and implementing automated email follow-up communications, the team has significantly enhanced the efficiency of grant reporting and follow-up procedures. This optimization has resulted in a substantial 84% reduction in time spent on research grant management, as compared to the previous process flow. With the dashboard that acts as a central hub for research grant management, the team now has easy access to all important grant information at a glance. This, combined with the automated follow-up email function, improves the efficiency and consistency of the grant follow-up work. As a result, the team is better equipped to plan and manage their grant-related tasks, ensuring that research grants submissions are always timely and well-prepared. This proactive approach not only improves the way research grants are being managed, but also contributes to better patient care treatments.

Conclusion

While CReDA has achieved notable improvements in productivity and efficiency, the sustained adoption of its tools is essential for fostering genuine change within the organization. To ensure long-term sustainability, CReDA was developed with a user-centric approach that prioritizes ease of use and accessibility. The choice of Microsoft VBA was intentional, as the programming environment is already integrated in the Microsoft Office applications, making it easy for staff with varying levels of technical proficiency to learn and utilize effectively. The tools are designed so that end users only need to click on a few buttons, and everything is computed automatically for them, streamlining the process further. By doing so, CReDA contributes to manpower sustainability in the healthcare industry, which is consistently challenged by manpower shortage. Looking ahead, the adaptability and flexibility of CReDA positions it well to evolve alongside changing business needs. This capability not only allows for continuous improvement but also opens the door for potential expansion into additional functional domains. CReDA's simplicity bolster sustainable adoption, ensuring that it remains as an asset in driving operational excellence and supporting the overall mission of delivering high-quality patient care.

Conflicts of interest related to this abstract: None

P-4038

Innovative digitalization breakthroughs for service excellence: The Materials Management Section Journey at the Mariano Marcos Memorial Hospital and Medical Center.

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Introduction

State policy stipulates the importance of transparency in managing and expending government resources in accordance with law and regulations, and safeguard against loss.

MMMH&MC caters daily to 500-600 patients. Service efficiency is monitored through turn-around-time (TAT) cognizance of timely issuance of resources for timely discharge of services. MMS initiated the use of *Property Inventory Management System (PIMS)* to boost its everyday operation at various core functions. Leveraging PIMS in 2020 as an interfaced program among end-users is a strategic tool to streamline operation and ease collaboration of informed decisions from planning to disposal of resources. Prior to digitalization, MMS could only process the Inspection and Acceptance Report (IAR) of delivered supplies and materials in 15 days as TAT of 11,380 transactions which leads to delayed issuance of logistics, thereby affecting timely issuance and service provision, and without much access to real-time data and the possibility of errors was inevitable.

Aim/Objective(s)

The primary objective of leveraging the Property Inventory Management System (PIMS) is to maximize operational efficiency by mainstreaming hospital operation and processes, systemizing workflow from planning to disposal, and establishing a robust system in logistic management of supplies and materials. With the integration of PIMS as a system in place, the TAT of MMS services is expected to decrease, an indicator of service efficiency in comparison to 2015-2019 15 days TAT. Secondary objective is the creation of the MMS web-based inventory system (WBIS) to interlace with PIMS for efficient inventory management, and access to real-time data of the hospital's transactions, properties, assets, and received donations, ensuring the utilization be in accordance with law, thereby improving transparency and accountability.

Methods

Utilizing qualitative method, using three focus group discussions (FGDs) to generate data to conceptualized PIMS (2019); two FGDs to revise PIMS after pilot run (2021); three FGDs to embed WBIS in PIMS (2021-2023); and two FGDS to validate and revise WBIS. Participants of the FGD were staff of I-HOMP unit (IT program developer), PGS scoreboard committee, and MMS manager and staff. Qualitative method was used to compare the TAT in 2015-2019 with traditional method of using paper and spreadsheet. And in 2020-2024 with PIMS, Excel sheet was used to tabulate and generate the average daily/monthly TAT MMS transaction as they forwarded documentary requirement to the next unit for accounting purposes, which was periodically submitted in compliance to "Ease of Doing Business and Efficient Government Service Delivery Act of 2018" (RA 11032) which aims to streamline government services, reduce bureaucratic red tape, and improve efficiency for businesses and citizens.

Results

In 2020-2024, with PIMS, a framework was created to mainstreamed operations and management of logistics, leading to efficient, unabridged and methodical reporting and decisions for planning to disposal of the hospital's resources. With automated inventory and data transparency, hospital operations is now cost-efficient. There is successful utilization of automated forms of WBIS, successfully interlaced with PIMS in 2021-2023. There was a noted 70% improvement in operational efficiency towards service excellence, with 3-4 days TAT of generation and forwarding of IAR of 14,669 received medical and office supplies and materials, drugs and medicine, laboratory and diagnostics supplies and reagent including equipment for issuance in the year 2020-2024, in comparison to 15 days TAT in 2015-2019. Identified best practices are: generation of real time data analytics for timely decision; regular inventory audits to verify stock accuracy and identify discrepancies; utilization of stock card; improved coordination among end-users leading to

efficient processing of requisition and issuance slip (RIS), issuance of resources; creation of an automated Monthly Consumption Report, integrating centralized supply information; streamlined inventory management; Quality Assurance through inspection reports, clear inventory and acceptance reports (IARS) of incoming goods; transparent documentation on assets and donations; and system on equipment maintenance and waste management.

Conclusion

PIMS and WBIS have demonstrably transformed the operations, efficiency, and transparency of MMS. It has streamlined the entire process – from planning to disposal. Digitalization has facilitated a significant reduction in TAT, showcasing an increase in operational efficiency. This transition not only streamlined processes but also fostered transparency and accountability through real-time data access and automated inventory management. Real – time data, regular inventory audits and centralized information has elevated accuracy and accountability in resource management. Moreover, the implementation of quality assurance has strategized the transparent reporting on assets and donations ensuring compliance with regulatory standards. Furthermore, MMS's thriving digitalization has contributed to faster, more equitable healthcare services, making MMMH&MC a model of efficient governance and operational excellence. As an offshoot, MMS received several commendations for its innovations. DOH IAS (2022) praised MMS processes in PIMS. ISO (2023) commended the system's effectiveness in PIMS. COA recognized full compliance with audit recommendations. Additionally, the Office for Strategy Management (OSM) in September 2024 applauded MMS for successfully implementing deliverables and meeting targets for the 1st and 2nd quarters of 2024. Ultimately, MMMH&MC can leverage these advancements as valuable blueprints for other public institutions seeking to modernize their operations through strategic digitalization.

Conflicts of interest related to this abstract: "None"

P-4039

Intelligent Management of Medical Transport Services Improved Clinical Operations: Case Study at a Medical Center

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Introduction

Medical transport services typically include the following: transfer of patients, specimens, medications, blood products, in addition to delivery of documents and medical records. The efficiency and quality of medical transport services affect medical costs, patient safety, and patient satisfaction. Here, we aimed to improve both clinical efficiency and service quality by implementing an intelligent dispatch management and monitoring system in a medical center setting.

Aim/Objective(s)

The efficiency and quality of medical transport services affect medical costs, patient safety, and patient satisfaction. In this study, we aimed to: (1) Shorten medical transport times, improve efficiency, and significantly reduce delays; (2) Enhance medical transport quality and reduce patient safety incidents; (3) Lower hospital-related costs.

Methods

We identified key issues in medical transport through literatures review and staff interviews, including duplicate dispatches, unclear orders, long elevator waits, excessive execution times,

and overwhelming task volumes. We then formulated improvement plans as follows: (1) expanded the functionality of an intelligent transport system with real-time elevator data, duplicate dispatch alerts, and integrated specimen/medication tracking; (2) analyzed big data from medical transport operations to optimize staff allocation during peak hours; (3) assigned additional transport personnel for scheduled specimen and medication deliveries to reduce unnecessary transport tasks; (4) developed a location-based system to assign the nearest transporter, reducing travel distances; (5) strengthened the enforcement of medical transport regulations and enhanced training for transport personnel, ensuring dispatch staff were familiar with system operations and improving transporters' skills; (6) introduced performance-based bonuses to retain outstanding transporters.

Results

After formulation according to the improvement plans, and the addition of a performance-based award system, our intelligent medical transport system was further modified along its course of implementation. As a result, transport delays dropped by 9.22%, with an overall improvement rate of 30.3%. A follow-up investigation further revealed that the continuous advocacy and the implementation of transporter training programs had markedly improved transporter competency, drastically lowering patient safety incidents in medical transport by 53.2%. Also, despite a 27.4% increase in medical transport workload due to the growing demand for medical services, the number of transport personnel increased only slightly by 13.6%. This finding showed that our intelligent management system had effectively streamlined manpower and reduced operation costs.

Conclusion

The application of information management and mobile communication technologies in medical transport services, coupled with a continuous refinement of execution methods, enhanced medical services both in efficiency and in quality. Ultimately, such an approach achieved our goals of effective management, workforce optimization, and cost saving.

Conflicts of interest related to this abstract: None

P-4041

Master Surgery Scheduling: The Key to Improving Waiting List Management

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Introduction

Portugal is currently facing a surgical waiting list crisis, with an average of 4 out of every 10 patients waiting beyond the maximum guaranteed response time. This issue is aggravated by inefficiencies in operating room (OR) scheduling. Hospitals face significant challenges in optimizing the allocation of OR time, and the analysis of OR processes showed the lack of a standardized tool for scheduling, which leads to decisions based on immediate demand and resource availability rather than a comprehensive assessment of each specialty's needs. As a result, meeting targets for reducing waiting times becomes increasingly difficult. A digital solution that enables data-driven decision-making could improve scheduling by prioritizing surgeries based on urgency, waiting times, and available resources. By optimizing OR time allocation, delays can be minimized, ensuring timely care for patients, while enhancing operational efficiency and patient outcomes.

Aim/Objective(s)

In order to address the challenges in managing surgical waiting lists, this project aimed at developing a dynamic Master Surgery

Schedule (MSS). The primary objective of the MSS is to allocate operating room time across different specialties, taking into account current waiting lists and available resources, with the goal of balancing waiting times across specialties. A key objective is ensuring the tool's adaptability, allowing it to adjust periodically to changes in surgical demand while maintaining both flexibility and stability, providing a consistent schedule for surgical staff. Additionally, the project aimed to design a tool that is adaptable to any hospital setting, while being tailored to the specific needs of individual hospitals. Ultimately, the developed tool seeks to support decision-making by optimizing OR time allocation, prioritizing high-demand specialties, and improving patient care by reducing waiting times.

Methods

The developed software utilizes mathematical programming, specifically linear programming, to optimize OR time allocation across surgical specialties. The model processes essential parameters such as the number of ORs, each hospital's schedule, and available human resources, integrating variable inputs like surgical waiting lists to dynamically adapt to demand fluctuations. Mathematical programming enables the formulation of allocation constraints through equations, ensuring efficient resource distribution. The selection of parameters and constraints is informed by ongoing meetings with key stakeholders, such as OR team management and staff. This iterative approach ensures that the model is aligned with each healthcare unit's needs, acting as a decision support tool and improving both accuracy and adaptability in surgical scheduling. Additionally, while the core principles remain consistent across hospitals, parameters and constraints are customized to reflect the unique characteristics and circumstances of each one.

Results

The results of this project demonstrate a strong potential for improving OR management. While previous studies have explored the concept of a MSS, a gap regarding the prioritization of high-demand specialties was identified. This project successfully addressed that gap, showing the feasibility of prioritizing specialties with longer waiting times and a higher proportion of priority patients. The findings indicate that a slightly adaptive MSS approach can increase the number of surgeries performed by up to 24%. For the public hospital, the tool demonstrated the ability to balance surgical waiting lists across specialties, reducing average waiting times and the percentage of patients waiting beyond their maximum guaranteed response time, particularly in specialties with higher waiting times. This approach was effective in reducing demand disparities, increasing the number of patients receiving surgery within the stipulated time, and ensuring a more equitable distribution of OR resources. However, regarding the public-private partnership hospital, where waiting times across specialties were already balanced, this effect was not observed. Furthermore, integrating this approach can lead to a more responsive scheduling system, ultimately reducing waiting times, improving patient satisfaction, and making better use of our medical staff and infrastructure.

Conclusion

In conclusion, this study demonstrates the potential of digital transformation to improve OR scheduling efficiency within both hospitals by optimizing scheduling processes and better allocating resources. In Portugal and across Europe, the prevalence of extensive surgical waiting lists and waiting times that exceed recommended limits highlight the urgent need for more effective OR time management. The decision-support tool developed in this project addresses this gap by providing a structured, data-driven approach to enhance efficiency, reduce waiting times, and ensure fair access to surgical care. A key contribution of this project is the introduction of a standardized

tool for OR time allocation, which can be scaled and implemented to other hospitals. To our knowledge, this is the first study to implement and validate such a tool across different hospital settings, demonstrating its scalability and applicability. These promising results suggest the tool's potential for wider adoption within the public healthcare system, which is the most impacted by the extensive waiting list pressure. Beyond its immediate operational impact, this project offers valuable insights for key stakeholders in surgical scheduling. Future developments could refine the tool with real-time adjustments and resource availability, further contributing to more efficient, responsive, and patient-centered healthcare services.

Conflicts of interest related to this abstract: None

P-4042

Meet eScribe: Your New Clinical Companion

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Introduction

eScribe is a cutting-edge digital assistant integrated into the Clinical Management System (CMS) of the Hospital Authority that revolutionizes the process of issuing Medical Certificates and Attendance Certificates for clinicians. With some millions of certificates issued annually, eScribe is designed to improve operational efficiency by automating clinical documentation and reducing the time and effort typically required for repetitive tasks. By streamlining the certificate issuance process, eScribe enables clinicians to focus more on direct patient care, ultimately enhancing the quality of healthcare services. The innovative tool is poised to transform the way clinicians work, making it an essential component of modern healthcare systems.

Aim/Objective(s)

The primary objective of eScribe is to achieve clinical automation during documentation and enhance operational efficiency by streamlining the process of certificate issuance, simplifying documentation workflows, and increasing speed and productivity in clinical settings. By minimizing the repetitive burden, eScribe aims to allow clinicians to focus more on direct patient care, leading to improved health outcomes. Additionally, eScribe seeks to reduce the workload of clinicians, enabling them to allocate more time to high-value tasks. By achieving these objectives, eScribe is expected to have a significant impact on the efficiency and effectiveness of healthcare services.

Methods

Designed to align with clinical workflow, eScribe is integrated into the CMS under the Consultation Note function. Frontline staff were engaged in workflow studies to ensure the functionality meets its intended purposes. The generic technical design of eScribe allows for easy application to other CMS functions. The system simplifies the process of issuing certificates by enabling clinicians to use simple commands within the Consultation Note, with a pop-up window for inputting the period and reason for leave. The system automatically saves and processes these tasks, bypassing the manual steps, and completes the documentation with a sentence stating the period

and reason for leave. This innovative approach eliminates the need for clinicians to navigate through several tabs, activate different functions, and manually input data, making the process faster and more efficient.

Results

eScribe underwent a successful pilot implementation at the Department of Ear, Nose and Throat in Tseung Kwan O Hospital in September 2023, with positive feedback highlighting improvements in clinical workflow efficiency and time savings in repetitive tasks. Since November 2023, the implementation of eScribe has been expanded to all hospitals in HA, with an enhancement in October 2024 to allow more flexible input. Over 30,000 certificates have been issued using eScribe until November 2024, and an upward trend in its usage is observed. The estimated time saved in issuing certificates by eScribe is about 800 working days, which equates to approximately 4 doctors per year. These results demonstrate the potential of eScribe to transform the way clinicians work, freeing up time for more critical tasks and improving the overall quality of healthcare services.

Conclusion

eScribe is a game-changing digital assistant that has the potential to revolutionize the way clinicians work. By automating clinical documentation and streamlining the process of certificate issuance, eScribe can significantly improve operational efficiency, reduce the repetitive workload of clinicians, and enhance the quality of healthcare services. The successful pilot implementation and expansion of eScribe to all hospitals demonstrate its potential for widespread adoption. As eScribe continues to evolve and expand its functionality, it is poised to have a profound impact on the healthcare industry, enabling clinicians to focus more on direct patient care and improving

health outcomes. Looking ahead, eScribe is extending the issuance of Medical Certificates and Attendance Certificates to other CMS functions, such as Discharge Summary, Family Medicine Note, and Allied Health Documentation. Additionally, eScribe is exploring ways to prescribe clinical requests, such as blood tests, radiology investigations, and specialty consultations, and issue referral letters, further solidifying its position as a transformative tool in the healthcare industry.

Conflicts of interest related to this abstract: None

P-4043

Monitoring of Health Indicators – A Digital Proposal

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Introduction

The monitoring of indicators in healthcare is essential to ensure the quality of care provided and to guarantee the continuous improvement of the care processes.

At Grupo Lusiadas Saúde, there is a strong commitment to the use of data, technology, and KPIs as fundamental pillars for evidence-based decision-making. Recognizing the need for a robust and dynamic monitoring system, the QPS team initiated the creation of a digital dashboard, which enables real-time tracking of quality and safety indicators that reflect the care provided. This tool addresses the need for internal and external benchmarking, facilitating comparisons between units and aligning practices with national and international standards.

Data collected from the electronic health record ensures real-time, up-to-date indicators, enabling swift and informed decision-making. In addition to monitoring healthcare performance,

the dashboard becomes a strategic tool for continuous improvement, ensuring that teams and leadership can proactively act on the optimization of healthcare delivery.

Aim/Objective(s)

The dashboard was developed to address the needs identified by clinical operational teams and Hospital leadership, ensuring alignment with the organization's strategic objectives. Over time, it has evolved in scope and accuracy, becoming an essential tool for the analysis and monitoring of critical areas, such as: Healthcare Service Efficiency, including indicators like average length of stay of hospitalized patients or the number of adverse and sentinel events. Infection Prevention and Control, like monitoring infection rates associated with the use of invasive devices and surgical site infections. Patient Quality and Safety, allowing the monitoring of the rate of near misses versus adverse events, incident reports addressed within 30 days, and incidents related to hospitalized patients. Clinical Protocols Compliance, such as suicide risk assessment in specific populations, Patient preparation calls before gastroenterology exams, and Hip Replacement Surgery within 48 hours of patient admission to the hospital.

Methods

The development of the dashboard implicated multidisciplinary teams, including doctors, nurses, technicians, and the QPS team, which coordinated the project, gathered requirements, and defined priorities with leadership. The implementation followed a structured process composed of several stages:

1. Needs assessment – Gathering requirements from operational teams and defining strategic priorities.
2. Indicator design – Based on a literature review, benchmarking, and validation with clinical leadership.
3. Data collection – Automated integration whenever feasible, reducing the need for manual intervention.
4. Results validation – Cross-analysis, ensured when there is a significant change in the data collection or data sources.
5. Dissemination and monitoring – Through regular meetings, training sessions, internal reports to leadership, and interactive dashboards.

Continuous collaboration between operational teams and the Business Intelligence (BI) team ensured that the developed indicators were not only relevant for performance monitoring but also useful for guiding concrete actions, enabling more efficient, data-driven management.

Results

The Patient Quality and Safety Dashboard has evolved to track 81 validated indicators across 17 domains, offering a comprehensive overview of healthcare performance. This tool is essential for clinical teams and leadership, supporting the monitoring of institutional practices, setting priorities, and implementing action plans to improve clinical outcomes. In 2024, dashboard usage saw a significant increase, with approximately 170 monthly accesses and a peak of 30 daily accesses in April. The automation of indicators facilitated their integration into monthly quality assessments for critical areas such as inpatient care, ICU, and surgical specialties, ensuring more consistent and systematic monitoring. Data analysis in 2024 identified key areas for improvement, including enhancing compliance to clinical protocols, optimizing complaint management, and addressing intervention gaps. For instance, pre-operative anesthesia consultations in one hospital within Grupo Lusíadas Saúde rose from 17.1% in late 2024 to 42.1% in early 2025. Significant improvements were also seen in surgical and medical performance metrics. Surgical report completion rates increased from 84.9% to 95.1%, while discharge note completion rates rose from 71.6% to 94.6% in one of the hospitals of the group.

The dashboard further supports benchmarking, period comparisons, and data extraction for validation and auditing purposes.

Conclusion

The implementation of automated quality indicator monitoring has led to significant improvements in transparency, efficiency, and safety. Internal communication is maintained through regular meetings, internal reports to leadership, and continuous access to the platform, ensuring that teams have weekly access to up-to-date data for informed strategic and operational decision-making. However, the process has faced challenges, including the integration of data from various systems, the ongoing need for indicator validation, and the adaptation of teams to incorporating data into clinical practice. Key success factors included active leadership engagement, comprehensive training for operational teams, and the flexibility to adapt indicators to meet the evolving needs of services. While technology played a crucial role, the positive impact was achieved primarily through the active involvement of clinical teams and the strategic application of data in decision-making. The next steps include expanding the dashboard to new clinical areas, incorporating artificial intelligence for the detection of adverse events, and enhancing system interoperability. Additionally, fostering a data-driven culture will be essential to ensure that the indicators serve not only as metrics but as powerful tools for improving the quality of care, serving also as a tool to evaluating healthcare team performance and service quality.

Conflicts of interest related to this abstract: None

P-4044

Moving towards novel multidisciplinary approaches for improving elderly quality of life: The emerging role of telemedicine in Sicily

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Introduction

Elderly care presents a global social and economic challenge for the public health system, requiring innovative management strategies. Telemedicine has emerged as a promising approach, offering remote monitoring and support to enhance autonomy and well-being. While medical advances have increased lifespan, aging often leads to reduced independence, loneliness and chronic illnesses such as senile depression and cardiovascular diseases. Tele-home monitoring allows elderly individuals to track their health from home, reducing hospital visits while improving care quality and mental health. Since 2001, Italy has integrated telemedicine in major cities, and recently, IRCCS Centro Neurolesi 'Bonino Pulejo' launched a telemedicine model for disadvantaged elderly adults. This program provides multidisciplinary video assistance, focusing on mental health, cognitive function, and nutrition to prevent disease and hospitalizations. Studies confirm that systematic telecounseling improves elderly patients' quality of life, eases caregiver burdens, and enhances psychological health, making telemedicine a crucial tool in elderly care.

Aim/Objective(s)

The aim of this telemedicine project is to enhance the quality of life for disadvantaged elderly adults in Sicily by addressing key health concerns. The initiative focuses on reducing depression, improving cognitive function, and promoting healthier dietary

habits to lower the risk of cardiovascular diseases and hospitalizations. Through a multidisciplinary video assistance network, the project provides remote neuropsychological and nutritional tele-counseling, enabling continuous monitoring and support. By integrating innovative telemedicine solutions, the program seeks to maintain elderly autonomy, prevent social isolation, and optimize healthcare resource distribution. Additionally, it aims to ease the burden on caregivers while ensuring timely medical interventions. The project highlights the effectiveness of telemedicine in elderly care, demonstrating that systematic remote health services can significantly improve psychological well-being, social functioning, and overall health outcomes. Ultimately, it strives to create a sustainable model for elderly care that can be expanded to other regions.

Methods

The study used two different methodologies to evaluate the patient's clinical condition, depending on the aspect to be assessed. Thus, the participants underwent two psychological evaluations, one at enrolment (T0) and one at the end of the study (T3), and four haematochemical tests at baseline (T0) and at four-month intervals afterward (T1, T2, T3). Twenty-two participants received weekly vital parameter monitoring and nutritional counselling, biweekly psychological counselling and a monthly consultation with a neurologist. The neuropsychological assessment included the Mini Mental State Examination, the Activities of Daily Living, the Instrumental Activities of Daily Living, the Geriatric Depression Scale, the Short-Form Health Survey and was administered at enrolment (T0) and at the end of the study (T3). The nutritional evaluation included haematochemical examinations of glycaemia, total cholesterol, and triglycerides at baseline (T0) and every four months (T1, T2, T3).

Results

All 22 subjects completed the year-long telemedicine project, participating in structured tele-counseling sessions: 12 with a neurologist, 50 with a nutritional biologist, and 100 with a psychologist. No hospitalizations or medication changes were required during the study. Significant differences were observed in age and marital status between men and women. Physiological scores improved significantly, with the greatest effect seen in the Geriatric Depression Scale (GDS), followed by moderate improvements in the SF-12 health survey. Haematochemical analysis showed significant changes across all pathology subgroups. Notably, cholesterol levels in subgroup C showed the most substantial reduction. Patients with hypercholesterolaemia and hypertriglyceridaemia experienced significant BMI reductions ($p = 0.012$ and 0.015), while no BMI change was observed in diabetic patients. Cholesterol levels in subgroup C moderately correlated with ADL ($r = 0.55$) and SF-12 ($r = 0.37$), triglycerides in subgroup T correlated with ADL ($r = 0.43$), and glycaemia in subgroup D showed correlations with MMSE ($r = 0.44$), ADL ($r = 0.65$), GDS ($r = -0.51$), and SF-12 Mental Health scores ($r = 0.43$). Overall, the study demonstrated that telemedicine significantly improved mental health, functional autonomy, and metabolic parameters, confirming its potential as an effective approach for elderly care.

Conclusion

Telemedicine can be a suitable tool for caring for elderly people by promoting more efficiently the remission of depressive symptoms and improving social functioning, cognitive levels and nutritional habits to prevent vascular diseases and exacerbations of pre-existing chronic illness. This study highlights the potential of telemedicine, particularly for elderly people living in remote areas with limited access to healthcare. Our integrated tele-monitoring and tele-counseling service aimed to reduce loneliness and depression, enhance eating habits, and promote functional autonomy. Results showed significant improvements

in emotional well-being, reduced depressive symptoms, and increased autonomy, aligning with existing literature. Additionally, better haematochemical values, particularly cholesterol reduction, confirmed the positive impact of individualized nutritional education and dietary support. Improvements in cholesterol and blood glucose levels correlated with enhanced physical health, cognitive function, and mental well-being. Despite these benefits, telemedicine has limitations. The lack of direct face-to-face interaction may weaken the therapeutic relationship, and the small sample size, absence of a control group, and limited general practitioner involvement present study constraints. However, our findings suggest that telemedicine, particularly multidisciplinary tele-counseling via video assistance, can be a valuable approach for supporting elderly individuals.

Conflicts of interest related to this abstract: None

P-4045

Navigating AI Integration Challenges and Competencies in Arab Healthcare

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Introduction

While Artificial Intelligence (AI) is reshaping medical practices globally, with it comes vast hurdles and limitations. The critical risks of the adoption of AI in medicine have been discussed; however, studies assessing healthcare professionals' perceptions of the use of artificial intelligence in medicine have received very little attention. This study explores how AI is incorporated into medical settings across the Arab regions, focusing on unique challenges and highlighting the need for specific competencies to leverage AI effectively.

Aim/Objective(s)

This research aims to investigate the challenges related to adopting AI in the healthcare sector of the Arab world. More specifically, it evaluates some challenges faced across different parts of the Arab world and healthcare practitioners' views and perceptions of Artificial Intelligence (AI), prioritize these challenges to enable strategic improvement of AI practices in healthcare settings, and defines essential competencies that are needed for the achievements of safe AI application.

Methods

This study was conducted using a mixed methods approach and included 208 healthcare practitioners from various Arab regions, including the Gulf, Levant, East Africa, and West Africa. The participants included specialists from five health professions, capturing a diverse range of perspectives on AI's impacts in their field. The sample is nearly evenly split among healthcare practitioners, with most aged between 30 and 45 years old and highly knowledgeable about digital solutions and AI tools. Data was collected through both in person and virtual interviews and structured surveys. The Analytic Hierarchy Process (AHP) was utilized to assess the level of challenges, importance, and comparative relevance through detailed pairwise comparisons. Additionally, the participants' competencies in effectively applying AI technologies in clinical settings were evaluated.

Results

The results demonstrate significant regional variations in AI awareness, usage, and comfort levels among healthcare professionals. A majority of the participants consider themselves well-versed in AI technologies, actively employing them in their professional environments. Notably, 53% of healthcare professionals express comfort and confidence in using AI solutions. Furthermore, 63% display a strong willingness to integrate AI into their daily practices, highlighting a positive attitude towards

AI adoption. Healthcare practitioners particularly highlight medical records management and patient education as the AI applications most relevant to their work. There is a strong consensus that AI significantly boosts the efficiency of patient data management, alleviates workload, and saves time. However, the greatest challenges lie in ensuring AI's accuracy, maintaining patient privacy and data security, and addressing regulatory and ethical concerns. Key competencies identified as necessary to navigate these challenges include a thorough understanding of AI algorithms, familiarity with AI tools, and strong technical and decision-making skills.

Conclusion

The study highlights a significant enthusiasm and readiness among healthcare professionals in the Arab world to adopt AI technologies, with a majority showcasing a strong willingness to incorporate AI into their professional settings. This positive reception is tempered by serious concerns regarding AI's accuracy, patient privacy, and the navigation of regulatory and ethical frameworks. To address these challenges effectively, it is crucial to enhance competencies related to AI across the healthcare sector. Developing a deep understanding of AI algorithms, alongside improving familiarity with AI tools and their practical applications, is essential. These competencies will enable healthcare professionals to leverage AI more confidently and responsibly, ensuring that its integration into healthcare settings not only enhances operational efficiencies but also upholds the highest standards of patient care and data security.

Conflicts of interest related to this abstract: None

P-4046

No-show appointments – reality, challenges and solutions. Perspectives of the Center of Hearing in Speech MEDINCUS in Poland

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Introduction

Numerous medical facilities worldwide face the issue of no-show patients (Dantas et al., 2018; Marbough et al., 2020; Lacy et al., 2004). No-show appointments have a negative impact on the medical center's work, cause financial losses, increase the use of resources, and reduce the possibility of offering more appointments to other patients. Implementing a strategy to minimize no-show appointments is a significant challenge and a key element in health management. It requires IT support and artificial intelligence (AI) solutions. Widespread computerization in healthcare, including AI solutions, is a key step towards modern and efficient healthcare that meets the needs of a modern, "computerized" society. The benefits are not only in patients' data management but also in improving the quality of medical services and increasing the efficiency of medical staff, including reducing no-show appointments and making business decisions.

Aim/Objective(s)

This presentation aims to present the reality of "no-shows" based on statistical data. Next, the challenges and negative impacts on medical centers from the management perspective are presented. Finally, the possible solutions, based on the experience of the Center of Hearing and Speech MEDINCUS, Kajetany, Poland, are discussed.

Methods

We implemented a new computerized management system in the Center of Hearing and Speech MEDINCUS. The system offers several information channels for patients and options for managing the visit: confirming, rescheduling, or cancelling the appointment at the most convenient time. A few management options are available. First, the patient may confirm, reschedule, or cancel the appointment using a virtual medical assistant who automatically calls the patient to confirm service. The entire process takes place without the involvement of the registration staff. Due to the integration with the medical system, the appointment status is changed in real-time, which makes it possible to react quickly and offer that appointment for another patient. Secondly, an appointment text message reminder is introduced. A short answer 'NO' is required to cancel the appointment. Finally, the "e-portal" is for patients who can easily and quickly reschedule or cancel an appointment.

Results

Before implementing the new appointment confirmation policy and the new computerized management system, we faced 7.13% of no-shows patients and 16.05% of cancellations annually. After the implementation of new policies and solutions, the percentage of no-shows patients reduced significantly to 2.67%, and the percentage of service cancellations increased to 19.84%. In other words, we noticed a decrease in no-shows patients by almost 5 percent and an increase of almost 4 percent in the number of cancelled appointments. The virtual medical assistant, calling automatically to the patient before the appointment has a success rate in confirming appointments of 93%. As the bot gives patients the option to reschedule the appointment, we had 3427 rescheduled appointments in 2024, which gave us almost 3500 appointments for other patients.

Conclusion

Implementing new policies and a computerized management system is not only connected with success but also causes challenges, such as personal data security, the need for staff training, and the integration of different IT systems. On the other hand, it is one of the key elements in improving the medical center's efficiency, including reducing the number of no-show appointments. Reducing the number of no-show patients requires a variety of communication channels to ease both booking, rescheduling, and cancellation. Thanks to e-health solutions, patients can book and manage appointments at any time. They have quick access to information about the medical center (doctors, specializations, outpatient clinics, and opening hours). The flexibility and the ability to reschedule or cancel appointments online make it easier to adapt appointments to patients' changing plans. It allows the medical center to increase efficiency – optimize the use of the staff's working time and increase service availability, leading to reduced waiting times for appointments. Finally, the AI and e-portal solutions improved communication with patients, resulting in better service quality and patient satisfaction. Last, patient education is also important – the importance of follow-up appointments and the consequences of absence throughout the treatment process need to be underlined.

Conflicts of interest related to this abstract: None

P-4047**Pain and Fear Management in Pediatrics: Using Virtual Reality in Different Health Contexts**

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Introduction

Throughout childhood, there are many painful procedures that the pediatric population undergoes in different health care settings. In primary health care, vaccination is the most common procedure (Burns-Nader & Goldstein, 2023). In the inpatient setting, peripheral venous catheterization and blood sampling are the most common procedures. As part of the humanization of care for the children/adolescents and their family, effective pain and fear management is important to minimize the physical and emotional impact of painful interventions. In the field of non-pharmacological interventions, Virtual Reality (VR) It's proving to be promising in reducing pain, anxiety and suffering (Lambert et al., 2020; Burns-Nader & Goldstein, 2023). In pediatrics, the evidence shows that VR can be used in invasive procedures and is safe and effective (Gerçeker et al., 2019). However, to these authors, citing Lange et al. (2006), it is necessary to investigate which procedures and which age group should be used.

Aim/Objective(s)

Evaluate the effectiveness of VR in managing pain and fear during painful procedures in pediatric patients:

- Evaluate VR's impact on reducing pain and fear in children/adolescents undergoing painful procedures;
- Compare pain intensity in the control and intervention groups;
- Compare fear in the control and intervention group;
- Identify the adverse effects of the use of VR;
- Assess the knowledge, acceptance, and ease of use of VR among children/adolescents, caregivers, and nurses;
- Analyze the experiences of the caregivers of the children/adolescents who are undergoing VR;
- Disseminate the results.

Methods

The methodology is based on the PICo strategy:

- Population – children/adolescents (4 to 17 years old inclusive) submitted to painful procedures (vaccination; peripheral venous catheterization and blood sampling)
- Intervention – Immersive Virtual Reality (IVR)
- Context – Health services (primary health care; pediatrics service and medical day care)

Exclusion criteria: neurocognitive impairment; neurodevelopmental disorders; reduced visual and/or hearing acuity; nausea, abdominal pain, and headache at the time of the assessment. The pain variable will be measured using the Faces Pain Scale – Revised (FPS-R) and the fear variable with a closed-ended question, due to the lack of validated scales adapted to the Portuguese population. The data analysis will be carried out Statistical Package for the Social Sciences – SPSS. Quasi-Experimental Study with the following Research Question: "How effective is IVR in reducing the pain and fear associated with painful procedures?"

Results

The purpose of this study is to provide results to validate the effectiveness of VR in managing pain and fear during painful procedures in pediatric patients. Obviously with the confidence of being able to confirm other results of this research and per-

haps serve as a basis for future studies or to continue and expand this research. This study aims to add to the body of scientific evidence on this non-pharmacological intervention by providing additional data on its efficacy, appropriateness and relevance in pediatrics.

It's important to highlight that our project is unique at our institution and island.

Conclusion

In pediatrics, VR has been shown to be an effective approach to reduce pain and fear associated with painful procedures. This project aims to contribute to the available scientific evidence on this non-pharmacological intervention to gather data on its relevance and importance (The, 2024). Children are the future of society, so reducing fear and pain during painful healthcare procedures will help them to become less anxious adults, thereby increasing compliance with healthcare services (Burns-Nader & Goldstein, 2023). As far as the institution is concerned, there will be gains in terms of innovative approaches and, essentially, a major contribution to the humanization of care for children/adolescents and their families, towards excellence and quality in the care provided. Nevertheless, the working group believes that this study will serve as a starting point for future studies or their expansion.

Conflicts of interest related to this abstract: None

P-4048**Precision Health Model Using Modular Clustering: An 8-Week Intervention to Reduce Metabolic Syndrome Risk in Preventive Healthcare Settings**

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Introduction

Metabolic syndrome (MetS), a major public health challenge, is characterized by central obesity, hypertension, dyslipidemia, and insulin resistance, significantly increasing the risk of cardiovascular diseases and type 2 diabetes. Preventive medicine plays a crucial role in mitigating MetS risk factors and delaying disease progression. The World Health Organization (WHO) reports that early intervention can reduce MetS incidence by over 50% in high-risk populations. Precision health models combining data-driven clustering and personalized interventions have shown promise in MetS risk management. The American Diabetes Association (ADA) and the International Diabetes Federation (IDF) highlight their role in early risk identification, health management, and preventive care. However, their feasibility in health check-up programs remains underexplored. This study evaluates a precision health framework incorporating modular clustering and targeted interventions, assessing its effectiveness in reducing MetS risk factors within an 8-week intervention program in a preventive healthcare setting.

Aim/Objective(s)

Two specific objectives were performed: (1) Assessing MetS risk factor reduction by evaluating changes in blood pressure, fasting blood glucose, triglycerides, high-density lipoprotein (HDL) cholesterol, and waist circumference following an 8-week precision health intervention, and (2) Validating model feasibility by examining the application of modular clustering and personalized interventions in post-health check-up care, supporting the standardization of preventive medicine.

This study provides a framework for integrating structured precision health models into metabolic risk management, supporting the development of scalable preventive healthcare interventions.

Methods

A single-group pretest-posttest study was conducted on 77 individuals at risk for MetS (mean age: 39.9 years; 42.9% male, 57.1% female). Based on 24 MetS risk factors, the modular clustering model used K-means clustering to determine six optimal groups through performance evaluation. Participants were then stratified accordingly, enabling precision-driven health interventions tailored to metabolic risk profiles. Personalized interventions included biweekly nutritionist consultations for tailored dietary plans, weekly modular-based digital health education providing data-driven behavioral reinforcement, and remote health coaching offering real-time support and psychological reinforcement via the LINE app. The 8-week intervention included assessments at Week 1 (Pretest) and Week 8 (Post-test). Statistical analysis involved paired t-tests for pretest-posttest comparisons, Pearson correlation for age-related metabolic changes, and descriptive statistics for trend analysis. Exclusion criteria were applied to remove participants using medications that affected metabolic markers, had incomplete post-test data, or lacked MetS risk factors.

Results

MetS risk factors improved in 33.7% of participants, defined as a reduction in at least one abnormal MetS risk factor, remained stable in 46.8%, and worsened in 19.5%. Men had a higher improvement rate (42.4%) than women (27.3%), with nearly twice the likelihood of metabolic risk reduction (OR = 1.9). Waist circumference dropped by -2.7 cm (95% CI: -3.5 to -1.9, $p < 0.001$), with 76.6% showing improvement and 15 overcoming abdominal obesity. Systolic blood pressure declined by -5.1 mmHg (95% CI: -8.0 to -2.2, $p < 0.001$), with 58.4% improving and 12 reaching levels below 130/80 mmHg. Triglycerides decreased by -22.6 mg/dL (95% CI: -34.0 to -11.2, $p < 0.001$); 69.7% of men (mean reduction: -64.3 mg/dL) and 65.9% of women (mean reduction: -26.0 mg/dL) improving, with 12 participants reducing triglycerides below 150 mg/dL. However, fasting blood glucose increased by 8.6 mg/dL (95% CI: 6.7 to 10.6, $p < 0.001$), highlighting the need for enhanced glycemic control. Pearson correlation analysis revealed negative correlations between age groups and improvements in high triglycerides ($r = -0.8$, $p < 0.01$) and low HDL cholesterol ($r = -0.7$, $p < 0.05$), reinforcing WHO recommendations for early metabolic risk management.

Conclusion

Our findings validate that structured precision health models, integrating modular clustering and personalized interventions, effectively reduce MetS risk factors. This scalable, evidence-based approach aligns with ADA and IDF guidelines, reinforcing the impact of targeted lifestyle modifications in improving metabolic outcomes. Implementing these strategies in routine health check-up programs enhances early detection and intervention, providing a standardized framework for metabolic risk management and advancing precision preventive medicine. Key improvements were observed in waist circumference, blood pressure, and triglycerides, with younger participants experiencing greater metabolic benefits, particularly in triglyceride reduction and HDL cholesterol increase. This result highlights the importance of early prevention and precision health strategies in optimizing age-specific metabolic adaptations, as supported by WHO and AHA findings. Despite promising results, certain limitations should be noted. The 8-week intervention may not capture long-term metabolic adaptations, and fasting blood glucose elevation suggests potential metabolic shifts requiring further study. Future research should explore

long-term follow-ups to assess intervention sustainability and potential compensatory changes. Integrating structured exercise programs and remote monitoring may further optimize glycemic control and metabolic outcomes. Expanding the study population across diverse demographics will be essential to validate the broader applicability of precision health models.

Conflicts of interest related to this abstract: None

P-4049

Predicting Hospital Admissions Using Neural Networks: A Deep Learning Approach for Emergency Department Patient Flow Optimization

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Introduction

The efficient management of hospital resources is crucial for ensuring quality patient care and preventing overcrowding in emergency departments (ED). The Hospital Universitari de Girona Doctor Josep Trueta, a public healthcare center managed by the Institut Català de la Salut, serves as a referral hospital, providing specialized medical and surgical care for the Girona healthcare region, in Catalunya, Spain. Predicting hospital admissions from ED visits is essential to optimizing bed allocation, staff planning, and resource distribution. However, traditional forecasting methods struggle with capturing complex patterns in patient flow. This project aims to develop an advanced predictive model using deep learning techniques to anticipate hospital admissions, integrating various data sources: (1) historical hospital records, (2) clinical and sociodemographic characteristics, (3) external factors such as meteorological and epidemiological trends. The findings will support hospital administrators in making data-driven decisions to enhance operational efficiency, reduce patient wait times, and improve healthcare service quality.

Aim/Objective(s)

The main objective of this project is to develop a hospital admission prediction model based on Deep Learning techniques, enabling the anticipation of hospital occupancy and improving healthcare planning by reducing waiting times and rescheduling.

The project aims to:

- Predict the number of admitted patients one week in advance.
- Integrate hospital data with external factors (weather, epidemiology, demography).
- Optimize predictive capacity through feature engineering and variable selection techniques.
- Implement the model in a real hospital environment for validation.

The expected outcome is to predict how many patients arriving at the emergency department will be admitted to the hospital and, more specifically, to assess whether this prediction can be categorized by medical service.

Methods

This study employs Deep Learning techniques to predict hospital admissions at Hospital Josep Trueta in Girona. Data sources include hospital records (admissions, discharges, bed occupancy), patient demographics and clinical data, emergency department flows, and external factors (weather and epidemiology).

Time series forecasting models such as Recurrent Neural Networks (LSTM, GRU) and Transformers (Time Series Transformer, Temporal Fusion Transformer) are explored. Attention mechanisms and categorical embeddings enhance interpretability. Data preprocessing involves missing value imputation, normalization, and anomaly detection. To prevent overfitting, techniques like Dropout, Batch Normalization, and L2 regularization are applied. Performance is evaluated using MAE, MSE, and R^2 across different time horizons. The expected output includes a global hospital prediction and service-specific forecasts for resource optimization. The model will be validated in a hospital setting with real-time monitoring and automated integration to improve hospital management and resource allocation.

Results

The expected results of this project include a significant improvement in hospital admission predictions, leading to enhanced resource planning and reduced emergency department congestion. The Deep Learning models (LSTM, GRU, and Transformers) are anticipated to outperform traditional statistical methods by providing more accurate forecasts. By integrating external factors such as epidemiological and meteorological data, the model is expected to improve prediction accuracy compared to approaches relying solely on hospital records. Additionally, the segmentation of predictions by hospital services should allow for a more targeted allocation of resources, optimizing bed occupancy and reducing last-minute surgical cancellations. Once implemented in the hospital environment, the model is expected to serve as a decision-support tool for medical and administrative staff, facilitating proactive hospital management. The results should demonstrate the feasibility of integrating AI-based forecasting models in healthcare settings, ultimately contributing to improved patient care and operational efficiency.

Conclusion

This project has the potential to significantly enhance hospital resource management by enabling more accurate predictions of patient admissions. By leveraging Deep Learning models and integrating external factors, it addresses the critical issue of emergency department congestion and inefficient bed allocation. The expected improvements in hospital flow management will lead to reduced wait times, optimized staffing, and minimized surgery reprogramming, ultimately enhancing patient care quality. Beyond its direct impact on hospital operations, this initiative contributes to the broader healthcare landscape by demonstrating the feasibility of AI-driven decision-making in medical settings. The model's implementation could serve as a foundation for policy improvements in hospital planning, supporting a shift toward predictive, data-driven management. Additionally, its methodological approach – combining recurrent neural networks and transformer-based architectures – adds value to research on healthcare forecasting, opening pathways for further innovation in patient flow prediction. If successful, this project could be scaled to other healthcare institutions, contributing to a more resilient and responsive hospital system. By integrating AI into hospital operations, it paves the way for smarter, more efficient healthcare services aligned with evolving patient needs.

Conflicts of interest related to this abstract: None

P-4050

Preliminary Practice of Constructing Structured Reports: Experiences from A Medical Center in Central Taiwan

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Introduction

As a public medical center, we use the following strategies to cope with changing environments: Mission: To strive for excellence in health care, medical education and research to improve the health of veterans, the general public and all human beings. Vision: To deliver intelligent and holistic medicine and to provide the best healthcare. Core Values: Accountability, Compassion, Quality, Integrity

Aim/Objective(s)

The main objective of this project is to introduce structured reporting by transforming descriptive reports into structured data, thereby constructing standardized medical report templates.

Methods

The project is carried out through team collaboration, involving: (1) inviting leaders in departments that have successfully implemented structured reporting to share their experiences; (2) formulating the standard elements of structured reporting; (3) establishing the timeline for implementing structured reporting; (4) developing the functionalities of the structured reporting system; (5) conducting clinical trials to ensure the accuracy of the output process.

Results

The project team was established on January 5, 2024, and successfully completed the implementation of structured reports in 32 departments by December 31, 2024. A total of 615 examination report codes and 341 report templates were established.

Conclusion

This project has made significant progress in the input of structured data. The successful use of structured reporting has enhanced the efficiency and information quality of the medical reporting platform, improved interdisciplinary communication, and opened up new possibilities for the future of medical reporting platforms, thus enhancing the efficiency and accuracy of medical information management.

Conflicts of interest related to this abstract: NO

P-4051

QUALITY CHECKING NBS SAMPLES: A TRAINING INTERVENTION TO MINIMIZE PRE-ANALYTICAL ERRORS IN THE NORTHERN PHILIPPINES

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Introduction

Newborn screening (NBS) is vital for early detection of congenital disorders, yet pre-analytical errors, particularly poor sample quality, impede its effectiveness. In Regions 1 and 2, Philippines, existing NBS training guidelines require reinforcement to address persistent challenges. This intervention supplements those guidelines by focusing on practical quality checking of samples. Recognizing that even minor deviations from protocol can compromise results, this initiative emphasizes hands-on

training for healthcare providers. It aims to standardize collection techniques, enhance data accuracy, and foster a culture of quality control. By building upon established training, this module seeks to minimize unsatisfactory sample rates and ensure timely, accurate NBS outcomes, ultimately safeguarding newborn health.

Aim/Objective(s)

This training module aimed to enhance the quality of newborn screening (NBS) in Regions 1 and 2, Philippines, by developing and implementing a targeted training module focused on the pre-analytical phase. The core objective was to reduce the rate of unsatisfactory NBS samples through improved healthcare provider competency in sample collection and data recording. Specifically, the initiative sought to standardize quality control practices, reinforce adherence to existing NBS guidelines, and instill a culture of meticulous sample handling. The module aimed to improve the accuracy and timeliness of NBS results by addressing common pre-analytical errors such as contamination, insufficiency, and inaccurate data entry. Ultimately, this effort intended to strengthen the overall effectiveness of the NBS program, ensuring early diagnosis and intervention for affected newborns.

Methods

Building upon existing NBS training, this initiative introduced a targeted module focused on pre-analytical sample quality, implemented with the Department of Health and other program partners in Regions 1 and 2, Philippines. The module, adapting NSRC Memo guidelines, emphasized practical quality checks, proper collection techniques, and accurate data recording. Training involved both theoretical and hands-on components. Quarterly NSF performance reports provided data on screening coverage, collection age, transit time, and unsatisfactory sample rates, allowing for pre- and post-implementation analysis. The module's effectiveness was evaluated by assessing the reduction in unsatisfactory samples and improvement in overall NBS program metrics. This supplementary training was integrated into routine program partner education.

Results

The implementation of the targeted training module, integrated into existing NBS programs, yielded significant improvements in pre-analytical sample quality. Post-implementation analysis of quarterly NSF reports revealed a notable reduction in unsatisfactory sample rates across participating facilities in Regions 1 and 2. Specifically, the rates of contaminated and insufficient samples decreased, indicating improved adherence to standardized collection techniques. Furthermore, the accuracy of data recording on filter cards increased, minimizing errors that previously led to rejected samples. The average age of collection remained within the target range, and transit times were consistently monitored, contributing to timely sample processing. The module's emphasis on practical quality checks and hands-on training empowered healthcare providers to identify and rectify potential errors before sample submission. This resulted in a more efficient workflow and reduced the need for repeat samples. The positive impact was also reflected in improved screening coverage, suggesting increased confidence among healthcare providers in the NBS process. Overall, the findings demonstrate that targeted training interventions, building upon existing NBS guidelines, are effective in enhancing pre-analytical sample quality and strengthening the overall performance of newborn screening programs.

Conclusion

This study demonstrates the significant impact of targeted, supplementary training on enhancing pre-analytical sample quality within existing newborn screening (NBS) programs by focusing on practical quality checks and reinforcing adherence to standardized guidelines, the implemented module effectively

reduced unsatisfactory sample rates in Regions 1 and 2, Philippines. The observed improvements in sample integrity, data accuracy, and overall program metrics highlight the crucial role of continuous education and skill development for healthcare providers. The findings underscore the necessity of supplementing existing NBS training with focused interventions that address specific pre-analytical challenges. This approach not only improves the efficiency and accuracy of NBS but also strengthens the program's capacity to deliver timely and reliable results. Empowering healthcare providers with the knowledge and skills to minimize errors contributes to the ultimate goal of ensuring early diagnosis and intervention for newborns with congenital disorders. Moving forward, the integration of such targeted training modules into routine NBS programs can serve as a model for other regions and countries, promoting the global advancement of newborn health through effective screening practices.

Conflicts of interest related to this abstract: None

P-4052

Remote telepresence versus in-person case observations for robotic surgery training pathways

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Introduction

"See One; Do One; Teach One" has been a classic model for surgical education. Robotic surgical training pathways typically require on-site observations of the cases of experienced surgeons as an early step in training for new robotic surgeons. The recent pandemic limited access to viewing cases in person, but telepresence technologies enabled remote case observations, which were adopted by robotic surgery training programs. The effectiveness of remote telepresence versus in-person case observations in supporting the training of robotic surgeons is not known.

Aim/Objective(s)

The objective of this study was to compare the impact of remote telepresence versus in-person case observations as part of robotic surgery training pathways on subsequent productivity of new robotic surgeons. We hypothesized that remote case observations were not inferior to in person with respect to robotic surgery adoption measured by case volumes and days to case milestones.

Methods

This study compared robotic surgery adoption metrics in newly trained robotic surgeons from the United States who did their first case observations either remotely or in person from 1/1/2017 through 11/23/2024. Surgeons who undertook both remote and in-person case observations were excluded. Surgeons in the remote cohort were matched with surgeons in the in-person group with the same surgical specialty, year of training, and geographic region. Since in-person greatly outnumbered remote case observations, the matching process randomly selected in-person surgeons from available exact matches. Remote and in-person groups were compared using the Wilcoxon signed rank test with median values for days to first and 10th cases, 90-day procedure volume post training, and 90-day procedure volume one year after training. Outcome variable calculations used business days to exclude holidays and weekends.

Results

During the study period, 7100 surgeons participated in their first case observations, 631 remotely and 6469 in person. The matching process yielded 439 remote / in-person surgeon pairs, with 192 remote and 6030 in-person unmatched surgeons. Both remote and in-person groups used in the analysis included the following specialties: 48 acute care surgery (11%), 43 bariatric surgery (10%), 36 colorectal surgery (8%), 163 general surgery (37%), 104 gynecology (24%), 32 thoracic surgery (7%), and 13 other (3%). For the new robotic surgeons in the comparison groups, the median number of days to completing their first robotic procedures were 6.0 for remote and 7.0 for in-person surgeons ($p = 0.46$). The median number of days to 10th procedure were 40.0 for remote and 42.0 for in-person surgeons ($p = 0.76$). These differences in days to case milestones were not statistically significant. The 90-day procedure volumes after training were significantly higher for surgeons who did case observations remotely compared with in person, with median number of cases of 4.0 for remote and 2.0 for in person ($p = 0.01$). The median number of cases performed in 90 days one year after training were 11.0 for remote and 10.0 for in person, and this difference was not statistically significant ($p = 0.33$).

Conclusion

Case observations are an early and important component of robotic surgery training programs. In-person case observations take surgeons away from clinical practice and can incur substantial costs for hospital systems when robotics experts are located at a distance. The recent pandemic prompted the adoption of remote case observations through telepresence technologies. In this study, new robotic surgeons who participated in case observations remotely had similar or improved measures of robotic surgery adoption compared with surgeons who did case observations in person. Case volumes were significantly higher in the remote telepresence group in the 90 days immediately after training, but 90-day case volumes were not significantly different across groups one year later. These findings suggest that remote case observations are not inferior to those done in person and might offer an advantage in early adoption of robotic surgery. Telepresence technologies can be effective in enabling case observations as part of robotic surgery training pathways. This technology has the potential to expand access to case observations and to reduce the costs of robotic surgery training.

Conflicts of interest related to this abstract: Dr. Pakula is an advisory board member for Intuitive Surgical. Mr. Trail and Dr. Jackson are employees of Intuitive Surgical and own Intuitive stock or stock options.

P-4053

Retrieval-Augmented-Generation large language models outperform junior clinicians in guideline-concordant PSA testing

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Introduction

Society guidelines for prostate cancer screening via PSA testing serve to standardize patient care, and are often utilized by

trainees, junior staff, or generalist medical practitioners to guide medical decision-making. Adherence to guidelines is a time-consuming and challenging task and rates of inappropriate PSA testing are high.

Aim/Objective(s)

This study evaluates a retrieval-augmented generation (RAG) enhanced large language model (LLM), grounded in current EAU and AUA guidelines, to assess its effectiveness in providing guideline-concordant PSA screening recommendations compared to junior clinicians.

Methods

A retrieval-augmented generation (RAG) pipeline was developed and used to process a series of 44 fictional case scenarios. Five junior clinicians were tasked to provide PSA testing recommendations for the same scenarios, in closed-book and open-book formats. Answers were compared for accuracy in a binomial fashion.

Results

The RAG-LLM tool provided guideline-concordant recommendations in 95.5% of case scenarios, compared to junior clinicians, who were correct in 62.3% of scenarios in a closed-book format, and 74.1% of scenarios in an open book format. The difference was statistically significant for both closed-book ($p < 0.001$) and open-book ($p < 0.001$) formats.

Conclusion

Use of RAG techniques allows LLMs to integrate complex guidelines into day-to-day medical decision-making. RAG-LLM tools in Urology have the capability to enhance clinical decision-making by providing guideline-concordant recommendations for PSA testing, potentially improving the consistency of healthcare delivery, reducing cognitive load on clinicians, and reducing unnecessary investigations and costs.

Conflicts of interest related to this abstract: None

P-4054

Revolutionizing Emergency Radiology: The Impact of Gleamer AI on Fracture Detection at Antonio Cardarelli Hospital, Naples, Italy

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Introduction

Fracture detection is a critical challenge in emergency radiology setting, especially in high-volume trauma centers like Antonio Cardarelli Hospital in Naples, one of Southern Italy's largest hospitals. The integration of Gleamer BoneView AI, a CE-certified deep learning algorithm for automated fracture detection, has the potential to enhance diagnostic accuracy, workflow efficiency, and patient outcomes. This study evaluates the clinical and operational impact of AI-assisted fracture detection in a real-world emergency setting.

Aim/Objective(s)

This study aims to evaluate the clinical impact of Gleamer BoneView AI in fracture detection at Antonio Cardarelli Hospital's Emergency Radiology Department, assessing its effectiveness

in improving diagnostic accuracy, workflow efficiency, and patient management.

Methods

From November 2024, Gleamer BoneView AI was implemented in the PACS system of the Emergency Radiology Department at Antonio Cardarelli Hospital. The AI analyzed X-rays of upper and lower limbs, spine, and chest, automatically flagging suspected fractures, dislocations and effusions.

Key performance indicators (KPIs) measured before and after AI implementation included:

1. Mean reporting time for X-rays with fractures.
2. AI diagnostic accuracy, compared to senior radiologists.
3. Impact on clinical workflow, including patient triage efficiency and surgical intervention times.

Results

The results demonstrate the significant impact of AI-assisted tools in medical imaging, particularly in trauma and emergency care. AI helps in reducing reporting time, streamlining the diagnostic workflow and improving efficiency. Gleamer BoneView exhibited impressive diagnostic accuracy, achieving 96% sensitivity and 93% specificity, effectively minimizing missed fractures. This is particularly crucial for detecting challenging fractures, such as scaphoid, rib, and vertebral fractures, where AI reduced misdiagnoses by 25%. Consequently, the need for additional diagnostic tests decreased, optimizing resource use. The adoption of Gleamer AI at Antonio Cardarelli Hospital demonstrated substantial improvements in diagnostic speed and accuracy, directly benefiting trauma patient management. However, some challenges emerged: false positives in degenerative bone changes or in previous fractures, as well as in presence of sheets and clothing, and training required for radiologists and emergency physicians to fully integrate AI findings into the clinical decision-making.

Conclusion

AI-powered fracture detection with Gleamer BoneView AI has transformed emergency radiology at Antonio Cardarelli Hospital, streamlining workflows, reducing reporting delays, and improving fracture detection rates. This technology offers a scalable and replicable model for high-volume trauma centers worldwide, demonstrating that AI is no longer the future, it's the present of emergency radiology.

Conflicts of interest related to this abstract: none

P-4055

Revolutionizing Healthcare Delivery: The Evolution and Impact of Health Care Management Systems (HCMS)

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Introduction

Health Care Management Systems (HCMS) are transforming the healthcare landscape by streamlining operations, improving patient outcomes, and enhancing resource utilization. In the context of Abeer Saeed Memorial Hospital, HCMS have played a pivotal role in addressing critical challenges such as operational inefficiencies, data management, and resource optimization. By implementing solutions like Electronic Health Records (EHR), Telemedicine, and Clinical Decision Support Systems (CDSS), the hospital has significantly enhanced patient care delivery and operational performance. These systems facilitate seamless communication, real-time data access, and evidence-based decision-making, crucial for handling the growing complexities of healthcare operations. As a PhD researcher specializing in Healthcare Operations Management at IIUI, my focus is on addressing systemic inefficiencies and leveraging

HCMS to drive sustainable improvements in healthcare delivery. This research bridges academic insights with practical applications, aiming to optimize workflows, reduce costs, and improve patient care across diverse healthcare systems.

Aim/Objective(s)

The primary aim of this research is to explore the role of Health Care Management Systems (HCMS) in optimizing healthcare operations and improving patient outcomes. The study focuses on identifying systemic inefficiencies in healthcare delivery and developing strategies to address them using advanced HCMS solutions such as Electronic Health Records (EHR), Telemedicine, and Clinical Decision Support Systems (CDSS). Specifically, the research seeks to:

1. Analyze the impact of HCMS on operational efficiency, resource allocation, and cost reduction.
2. Evaluate the effectiveness of HCMS in enhancing communication and data management across healthcare teams.
3. Develop actionable frameworks for implementing HCMS in diverse healthcare settings, ensuring scalability and adaptability.
4. Address challenges such as integration, user adoption, and data security to maximize the benefits of HCMS.

By bridging theoretical insights with practical applications, the research aims to contribute to sustainable improvements in healthcare delivery systems.

Methods

This research employs a mixed-methods approach, integrating qualitative and quantitative methodologies to analyze the impact of Health Care Management Systems (HCMS) on healthcare operations. Data collection involves case studies from healthcare institutions, including Abeer Saeed Memorial Hospital, where HCMS are actively implemented. Participants include hospital administrators, IT managers, healthcare providers, and patients, selected through purposive sampling to ensure diverse perspectives.

Primary data is collected through structured interviews, surveys, and observational studies, while secondary data is gathered from organizational records and performance metrics. Tools such as SPSS and NVivo are used for statistical analysis and qualitative data coding, respectively. The study focuses on operational metrics like patient wait times, resource utilization, and error rates to evaluate the effectiveness of HCMS. A thematic analysis is conducted to interpret qualitative insights, aiming to develop actionable frameworks for optimizing HCMS implementation and addressing systemic inefficiencies in healthcare delivery.

Results

The research highlights the transformative impact of Health Care Management Systems (HCMS) on healthcare operations, demonstrating improvements in efficiency, patient outcomes, and resource utilization. Key findings include:

1. **Enhanced Operational Efficiency:** HCMS implementations, such as at Abeer Saeed Memorial Hospital, reduced patient wait times by 25% and improved appointment scheduling accuracy by 30%. Observational studies and performance metrics validated these results.
2. **Improved Communication and Coordination:** Health Information Exchange (HIE) systems fostered seamless communication among healthcare providers, reducing redundant tests by 18%. Interviews with healthcare staff emphasized enhanced collaboration and workflow integration.
3. **Cost Optimization:** Automated billing and resource allocation tools lowered administrative costs by 20%. Financial data analysis supported these findings.
4. **Positive Patient Experience:** Telemedicine solutions increased access to care for rural patients, with 40% of surveyed participants reporting higher satisfaction.
5. **Challenges in Adoption:** Data analysis revealed integration issues and staff resistance as major hurdles, necessitating focused training and strategic planning.

Quantitative data from surveys and qualitative insights from interviews and thematic analysis corroborate these findings. This research underscores the potential of HCMS to address systemic inefficiencies, offering actionable frameworks to optimize healthcare delivery and drive sustainable improvements across diverse settings.

Conclusion

This research contributes to healthcare service improvement by addressing critical inefficiencies through the effective application of Health Care Management Systems (HCMS). By improving operational workflows, enhancing patient outcomes, and optimizing resource allocation, HCMS provide innovative solutions to challenges such as fragmented care, high operational costs, and communication gaps highlighted in the introduction. The potential of HCMS to streamline processes through tools like Telemedicine and Health Information Exchange (HIE) systems, which enhance care accessibility and provider collaboration. These advancements are particularly beneficial for underserved areas, reducing healthcare disparities and enabling equitable service delivery. The study also identifies barriers to adoption, such as integration challenges and staff resistance, and proposes targeted training and strategic planning to mitigate these issues. From a policy perspective, the research offers evidence-based recommendations for implementing secure and salable HCMS, aligning with global goals for digital health transformation. In practice, it provides a road map for healthcare organizations to adopt lean management practices and automated administrative workflows, improving efficiency and patient satisfaction. Academically, this study bridges the gap between theory and practice, paving the way for future exploration of advanced tools like AI-driven decision support systems, further innovating healthcare operations management and promoting sustainable improvements in health services.

Conflicts of interest related to this abstract: none

P-4056

Revolutionizing Patient Safety and Care Efficiency with the MOE Platform Powered by Artificial Intelligence and Smart Monitoring Solutions

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Introduction

In the context of modern healthcare, ensuring patient safety and quality care is paramount, especially in complex medical environments like our hospital system. As one of the leading medical complexes in Latin America, recognized for our commitment to excellence, we aim to enhance patient outcomes through innovative solutions. MOE (Medical Observation Engine) represents a transformative approach, starting with MOEVision. This module leverages artificial intelligence, surveillance cameras, and expert systems to identify risks for patients in bed, such as falls and pressure injuries. By providing real-time alerts to healthcare personnel, it enables proactive interventions that mitigate potential complications. MOE Vision not only aligns with our hospital's dedication to quality and safety but also addresses the growing challenges of data overload, empowering staff to focus on patient care while improving efficiency and outcomes within our healthcare system. This initiative underscores our commitment to advancing healthcare delivery and enhancing the overall patient experience.

Aim/Objective(s)

The primary aim of the MOE initiative is to enhance patient safety and care quality within our healthcare system. Key objectives include the early identification of potential risks, enabling timely interventions to prevent adverse events such as falls and pressure injuries. By implementing the MOE Scoring System (MSS), we seek to quantitatively assess the safety of each patient's inpatient stay, providing a feedback mechanism for patients, families, and healthcare staff. This scoring system will promote awareness and education regarding safety practices, ultimately fostering a culture of accountability in patient care. Additionally, the initiative aims to streamline data processing, reduce information overload for healthcare professionals, and empower staff with actionable insights to improve patient outcomes and overall experiences during hospital stays. By focusing on these objectives, MOE strives to elevate the standard of care and cultivate a collaborative environment centered on patient safety and satisfaction.

Methods

This methodology emphasizes continuous monitoring through the use of video surveillance, EHR, and IoT sensor data, targeting high-impact environments within the hospital. Participants will include healthcare personnel and patients, sampled randomly during peak hours to assess realistic conditions. Real-time data collection will be facilitated using AI algorithms that analyze footage for potential hazards. The MSS framework will be developed to quantify patient care experiences and safety levels, offering valuable insights to healthcare staff, patients, and families, thereby driving improvements in care quality and operational efficiency.

Results

Although still in its early stages, with MOE currently piloting in only 43 hospitalization beds, preliminary findings demonstrate promising trends in patient safety and operational efficiency. The implementation of a color-coded alert system has significantly improved the precision in detecting potential safety events. Monitoring personnel, who previously had to sift through hundreds of cameras, can now identify alerts rapidly, reducing event detection time from 13 minutes to just 5 minutes. Furthermore, the workload on telemonitoring staff has decreased, contributing to lower stress levels and reduced burn-out among personnel. The response time for alerting nursing staff in hospitalization units has also improved, as remote activation of audible alerts can now be triggered, cutting down the notification time from 5 minutes to 3 minutes. These findings, supported by real-time data analysis and feedback from monitoring staff, suggest that MOE's initial phase is effectively enhancing both patient safety protocols and the working environment for healthcare professionals. As data acquisition continues, these metrics will help inform future developments of the MOE initiative.

Conclusion

MOE platform initiative represents a significant advancement in enhancing patient safety and operational efficiency in healthcare settings. By leveraging artificial intelligence, real-time surveillance, and comprehensive data integration, MOE addresses critical issues in patient care, particularly concerning the prevention of adverse events such as falls and pressure injuries. This proactive approach not only empowers healthcare personnel but also fosters a collaborative environment where patient safety is prioritized. The implementation of MOE can drive improvements in health service delivery by streamlining monitoring processes, reducing response times, and lowering the workload on medical staff. This innovative approach provides essential feedback through the MOE Scoring System (MSS), educating patients, families, and healthcare providers about safety measures and enhancing overall care quality.

Moreover, as the initiative evolves and more data is collected, it has the potential to inform policies aimed at improving clinical practices and operational protocols. Ultimately, MOE sets a foundation for future research initiatives that can evaluate its long-term impact on patient outcomes and community health standards. By focusing on reliable implementation strategies, the MOE initiative aspires to create a safer, more efficient healthcare environment, significantly benefiting patients and the broader community in the long run.

Conflicts of interest related to this abstract: None

P-4057

SCFHS Policy Statement on AI Integration in Health Professions Education, Training, Research, and Practice: A Framework for Stakeholder Engagement

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Introduction

Artificial Intelligence (AI) is transforming healthcare worldwide, offering unprecedented opportunities to enhance patient care, optimize clinical workflows, and drive healthcare innovation. As Saudi Arabia advances its AI agenda, the Saudi Commission for Health Specialties (SCFHS) is committed to ensuring the responsible and effective integration of AI into health professions education, training, research and practice. The SCFHS's policy statement aims to outline SCFHS's approach and framework developed in collaboration with key stakeholders, to align AI adoption with national regulations, ethical standards, and global best practices. By fostering governance of AI education, training, research, and practice, SCFHS aims to empower healthcare professionals, advance healthcare AI applications, and safeguard patient rights. This framework reinforces Saudi Arabia's vision to become a global leader in AI-driven healthcare, ensuring that AI technologies are implemented ethically, safely, and transparently to benefit both practitioners and patients alike.

Aim/Objective(s)

The Saudi Commission for Health Specialties aims to facilitate the responsible and effective adoption of Artificial Intelligence (AI) in healthcare education, training, research, and practice. This initiative seeks to enhance healthcare quality, improve patient outcomes, and uphold ethical and regulatory standards while equipping healthcare professionals with the necessary AI knowledge and skills to meet the following Objectives:

1. Enhance AI education and training by integrating AI into curricula, professional development programs, and interdisciplinary learning.
2. Advance AI research and innovation by promoting clinical trials, data-driven solutions, and partnerships with academic and research institutions.
3. Ensure ethical AI implementation through transparency, patient data protection, and fair decision-making.
4. Regulate and accredit AI in healthcare by establishing governance frameworks, compliance standards, and safety evaluations.
5. Promote collaboration between healthcare professionals, researchers, and industry leaders to drive AI-driven healthcare transformation in Saudi Arabia.

Methods

To ensure a comprehensive and inclusive review of the SCFHS Policy Statement on AI Adoption in Health education, training,

research and practice; a structured stakeholder engagement approach will be employed to revise the initial Policy Statement Draft:

1. Stakeholder Identification: Key groups include healthcare professionals, educators, AI researchers, policymakers, regulatory authorities and health industry leaders.
2. Consultation Methods: Online Surveys targeting 1000+ stakeholders to gather broad feedback of representatives from clinical, academic, and regulatory sectors to refine governance and ethical considerations.
3. Data Collection and Analysis: Quantitative survey data will be statistically analyzed for trends, and Qualitative inputs will undergo thematic analysis.
4. Validation and Finalization: Consensus workshop will be conducted to integrate findings before final approval. The revised Policy Statement will be reviewed and approved by SCFHS Board for adoption.

Results

The SCFHS Policy Statement on AI Integration in Health Professions Education, Training, Research, and Practice will contribute to realize significant advancements in AI adoption across Saudi Arabia's healthcare sector, fostering innovation, ethical governance, and professional competency, through the following:

1. Advancing AI Education and Training: AI competencies will be integrated into SCFHS-accredited curricula and professional development programs, equipping healthcare professionals with the skills necessary for responsible AI adoption. Interdisciplinary training will enhance collaboration between clinicians, data scientists, and policymakers.
2. Strengthening AI Research and Innovation: Enhanced partnerships with universities, research institutions, and industry leaders will accelerate AI-driven clinical trials and the development of evidence-based solutions. Expanded access to ethically sourced healthcare data will support AI advancements while ensuring compliance with data privacy regulations.
3. Ensuring Ethical and Regulatory Governance: through clear guidelines for transparency, fairness, and accountability in AI-driven decision-making, mitigating biases and safeguarding patient rights. AI accreditation frameworks will ensure the safety, reliability, and effectiveness of AI applications before clinical deployment.
4. Fostering Stakeholder Collaboration: Active engagement with healthcare professionals, regulators, and industry experts will establish a unified national AI framework. Consensus-driven policymaking will contribute to position Saudi Arabia as a global leader in AI-driven healthcare transformation.

Conclusion

The SCFHS Policy Statement on AI Integration in Health Professions Education, Training, Research, and Practice marks a pivotal step in advancing healthcare services while prioritizing patient safety. By equipping healthcare professionals with essential AI competencies, fostering research-driven innovation, and establishing robust ethical and regulatory frameworks, this policy will contribute to enhance the quality, efficiency, and safety of healthcare delivery in Saudi Arabia. AI-driven technologies will support clinical decision-making, improve diagnostic precision, and optimize treatment plans, reducing medical errors and enhancing patient safety. The policy's emphasis on governance ensures that AI ethical and responsible applications of healthcare professionals are transparent, fair, and aligned with best practices, mitigating biases and safeguarding patient rights. Through interdisciplinary education, training, collaboration and stakeholder engagement, SCFHS is fostering a responsible AI ecosystem that enhances healthcare outcomes while

upholding the highest ethical standards. This initiative supports Saudi Vision 2030, positioning Saudi Arabia as a global leader in AI-driven, patient-centered, and safety-focused healthcare innovation.

Conflicts of interest related to this abstract: None

P-4058

Smart Ward, Smarter Care: Digital Transformation and AI Redefining Sustainable Healthcare

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Introduction

Singapore's rapidly ageing population, shrinking workforce, and rising chronic disease burden present urgent challenges to the hospital-centric healthcare model, which is no longer adequate or sustainable. The traditional approach – confined to hospital stays – results in fragmented care and suboptimal patient outcomes. A paradigm shift is essential, extending care beyond hospital walls and integrating it seamlessly across the entire patient's and person's journey. While digital and IT enablers hold immense potential, large, complex hospital systems face slow adoption due to competing priorities among stakeholders. Innovation often remains siloed, preventing system-level implementation and limiting real-world impact. To bridge the gap between innovation and adoption, we must transition from isolated pilots to a structured, scalable approach that drives system-wide integration. By embedding innovation within a strategic adoption framework, we can achieve sustainable, technology-enabled care transformation – ensuring a connected, anticipatory, and patient-centric healthcare ecosystem for Singapore's evolving needs.

Aim/Objective(s)

Ward Without Walls (WoW) Programme: Transforming Care Beyond Boundaries is the next phase of TTSH's inpatient care transformation. WoW aims to relook at current care model by beginning care beyond the hospital, empowering patients and caregivers to take charge of their care journey and completing the care back in the community. It leverages on enabling levers that supports system-level innovation – redesigning care processes, applying technology, and ultimately redesigning jobs to enable the new model of care. In order for the WoW Programme to bridge the innovation to adoption gap and to measure the impact at the system level, TTSH designated a live 40-bedded medical ward as its Smart Ward. The Smart Ward re-imagines the future state of inpatient care by adopting a sandbox approach to rapid test-bed innovations in a real-world patient environment. The programme evaluation comparing Smart Ward and a Control Ward is expected to complete by April 2025.

Methods

Visioning: A tripartite leadership team was established, comprising medical, nursing, and operation, for holistic approach that balances clinical excellence, operational efficiency, and patient-centered care.

Through co-creation workshop, the team redefined the patient's experience as connected, enabled and partnered and staff to have increased direct patient care and coordination.

Care & Process Redesign: Smart ward is focused on team-based care moving away from traditional physician-led care model limiting multidisciplinary decision-making and collaboration. This enables the shift towards a coordinated care model that bridges acute, primary and aged care, ensuring continuity across patient journey.

Digital and Automation Innovation: Key capabilities were established – patient engagement, automation and robotics, predictive AI for patient monitoring and for decision support. Specific innovation projects were tested in the Smart Ward.

Workforce Redesign: Increased productivity was re-invested in the upskilling of nurses to complementing junior doctors and expansion for doctor's role to coordinate care with primary care partners.

Results

Programme Evaluation

Smart Ward was compared to a Control Ward:

1. Comparing to the baseline Average Length of Stay (ALOS) of Smart Ward in 2023 was 9.1 days compared to 2024's 8.4 days.
2. Achieved 31% early discharges before 12 noon compared to control ward at 9% in 2024.
3. No significant changes observed with 30-day readmission rate from 2022 to 2024 which maintains between 16% to 17%.
4. Patient satisfaction was not compromised and caregiver burden did not increase.

Projects Evaluation

Automation: Hands-free communication device designed to enhance decision-making speed through immediate consultations, shows promising results on potential savings in manpower and cost. – **Patient Engagement:** Application offers a guided experience for patients and caregivers in a virtual reality world that replicates the ward environment to facilitate patient's orientation. – **Predictive AI – Patient Monitoring and Decision Support:** Integrated wearable technology to improve timeliness of detecting patient deterioration, allowing pre-emptive care to be delivered more quickly. – The application and integrated wearable had provided a good prospective on how they could avoid potential patient-related adverse events, by reducing time to patient deterioration and improving patient knowledge of the patient safety information.

Final results will be released after completion of evaluation in April 2025.

Conclusion

Smart Ward serves to develop an inpatient blueprint for an integrated and sustainable healthcare, enabling access, quality and affordable care while incorporating technology enabled experience for both patients and staff. By implementing a structured adoption approach Plan-Do-Study-Act of Standard Operating Procedures at Smart Ward, this Inpatient Blueprint ensures innovation is embedded at a system level, bridging the gap between ideation and real-world impact. From the projects perspective, the team evaluates the project(s) to scale based on cost benefit analysis to determine whether to scale or extend the proof-of-value study. From the programme perspective, the team explore scale-up of smart ward to the rest of the acute wards. The WoW programme has next challenge of increasing acuity of patients and build corresponding tertiary care capabilities. The inpatient blueprint can therefore be revised to a tertiary care hospital blueprint. As we continue to drive meaningful transformation, the tripartite leadership team remains to be critical – comprising medical, nursing, and operations – to fosters alignment, accelerates innovation adoption, and ensure solutions are scalable and sustainable. We are optimistic to create an integrated, anticipatory ecosystem – one that is not only technologically advanced but also deeply attuned to the needs of patients, caregivers, and healthcare professionals.

Conflicts of interest related to this abstract: None

P-4059**Suggestions for Writing Clinical Medical Record Summaries Using Large Language Models**

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Introduction

During hospitalization, clinical staff are required to document extensive medical records, including Weekly Summaries, Discharge Summaries, Admission Notes, Handover Records, and Nursing Record Summaries. These tasks involve retrieving and consolidating a vast amount of data, such as medical histories, physician orders, treatment plans, medication records, and test results. This process is time-intensive and detracts from patient care activities.

Aim/Objective(s)

This project aims to leverage large language models (LLMs) to improve the efficiency and completeness of medical record documentation, assisting clinical staff in generating structured summaries more quickly and enhancing patient care quality.

Methods

The interdisciplinary team included physicians, medical record managers, and software engineers, who collaborated on the following: Physician-designed prompts: Created structured LLM instructions tailored to specific medical summary needs. Content review by record managers: Ensured that generated summaries adhered to clinical standards and formatting requirements.

IT infrastructure setup: Established a test environment using Nvidia NIM and an A6000 GPU, processing de-identified medical data to minimize risks of errors and hallucinations. Weekly Summaries were used as a test case, with seven days of Progress Notes (POMR) prepared in a SOAP format:

S (Subjective): Symptoms and chief complaints.

O (Objective): Signs, lab results, and past medical history.

A (Assessment): Initial impressions and differential diagnoses.

P (Plan): Diagnostic, therapeutic, and educational plans.

Results

After two months of parallel testing, we plan to implement the service into the clinical environment. To enhance efficiency and ensure performance, we have adjusted the Weekly Summary to run as a daily scheduled batch, generating summaries in advance for physicians to quickly review during rounds or handovers. Physicians can directly modify the summaries or save the finalized content to the official medical record system. If the summaries do not meet expectations, physicians can provide supplementary notes, and the system will regenerate the summaries based on seven-day medical data and the additional input. This approach improves documentation efficiency while ensuring the accuracy and clinical relevance of the summaries.

The time required to produce Weekly Summaries was reduced from 10–20 minutes to 15–30 seconds using LLMs, with significant improvements in consistency and completeness. Satisfaction surveys indicated an 80% approval rate among clinical staff, although occasional hallucinations and verbosity in the generated summaries were noted.

Conclusion

LLMs demonstrate significant potential in enhancing the efficiency and quality of medical record summaries. Future efforts will focus on integrating RAG technology to include domain-specific content and specialized treatment guidelines, further

improving output accuracy and usability. This innovation enables clinical staff to

focus more on patient care, fostering a more efficient and patient-centered healthcare environment while improving overall medical quality.

Conflicts of interest related to this abstract: None

P-4060**The implementation of the Pain, Agitation, Delirium, Immobility, and Sleep (PADIS) guidelines in the Transplant intensive care unit**

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Introduction

The Society of Critical Care Medicine recently issued the 2018 Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption (PADIS) in Adult Patients in the ICU. The PADIS guidelines were developed to address common problems, including pain, agitation, delirium, immobility, and sleep deprivation, and to provide evidence-based recommendations for the management of these issues. When the patient's physical problems are not resolved, may result in patient safety concern due to restlessness, delirium and insomnia. These problems can lead to a worse outcome such as patient injury, prolonged restraint and ICU stay, and increased healthcare costs.

Aim/Objective(s)

The primary aim of this study is to evaluate the impact of implementing the Pain, Agitation, Delirium, Immobility, and Sleep (PADIS) guidelines in the transplant intensive care unit (ICU) and determine their effectiveness in improving patient outcomes. The specific objectives include:

1. Enhancing the completeness rate of PADIS assessments performed by ICU nurses to ensure comprehensive patient evaluation.
2. Increasing the utilization rate of light sedation medications for ICU patients to promote comfort and reduce the risks associated with deep sedation.
3. Assessing the impact of PADIS interventions on sedation practices, physical restraint use, ICU length of stay, and overall patient safety.
4. Developing a PADIS business intelligence platform within the hospital information system to facilitate real-time data analysis and evidence-based decision-making.

Methods

From 2020 to 2023, we implemented the PADIS guidelines using standardized assessment tools, including the Critical Care Pain Observation Tool (CPOT) for pain assessment, the Richmond Agitation-Sedation Scale (RASS) for sedation and agitation monitoring, and the Intensive Care Delirium Screening Checklist (ICDSC) for delirium detection. To enhance adherence, a structured education and training program was conducted for all ICU staff, ensuring standardized assessments and interventions. Medication monitoring strategies were established to optimize sedation and analgesia, reducing the use of deep sedation while promoting light sedation practices. Additionally, an ICU rehabilitation process was introduced to improve patient mobility and recovery. A PADIS business intelligence platform was integrated into the hospital information system to facilitate real-time data tracking and analysis. These interventions aimed to enhance patient care quality, improve clinical outcomes, and promote evidence-based practices in the ICU setting.

Results

Compared to 2020, the adherence to pain assessment, agitation assessment, and delirium screening in 2023 showed a continuous increase and sustained improvement. The compliance rates significantly improved from 84.1% to 98.2% for pain assessment, 15.1% to 98.1% for agitation assessment, and 44.4% to 80% for delirium screening ($p < 0.05$). The proportion of patients maintained in light sedation (RASS: -1 to +1) significantly increased from 18.7% to 75.4% ($p < 0.0001$), while the prescription rate of light sedation medications rose from 7.8% to 12.5% ($p < 0.0001$). Additionally, the mortality rate decreased from 15.9% to 10.2%, indicating improved patient outcomes. ICU length of stay was slightly reduced from 8.39 days to 8.03 days. The use of physical restraints decreased from 80% to 72%, and the average restraint duration was reduced from 68.6 hours to 56.4 hours. These findings highlight the effectiveness of PADIS implementation in enhancing patient safety, optimizing sedation strategies, and improving overall critical care management in the ICU.

Conclusion

This project has significantly enhanced the quality of care for ICU patients by systematically addressing pain, agitation, delirium, immobility, and sleep disturbances. The implementation of the PADIS guidelines has led to a reduction in adverse events, including excessive sedation, prolonged mechanical ventilation, and physical restraint use. By promoting evidence-based practice, PADIS emphasizes the importance of continuous patient assessment, early intervention, and individualized care strategies. Additionally, integrating a structured education and training program for ICU staff has improved adherence to standardized assessments, ensuring a more consistent approach to patient management. The development of a PADIS business intelligence platform has also facilitated data-driven decision-making, allowing for real-time monitoring of patient outcomes. These improvements contribute to continuous quality enhancement in ICU care, leading to better overall health outcomes and increased patient safety. The PADIS bundle is an assessment-driven, protocol-based, stepwise approach designed to optimize ICU patient management. Our findings suggest that the implementation of the PADIS bundle is associated with significant clinical benefits, including improved sedation practices, reduced adverse events, and enhanced patient outcomes in critically ill ICU patients.

Conflicts of interest related to this abstract: none

P-4061

The Specchio Study: An example of an epidemiological tool for hospitals to follow and improve population health.

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Introduction

In addition to providing care, the HUG is an academic center for research and quality of care. Hospitals can help monitor and provide insights into population health by detecting emerging health issues, providing a comprehensive view of health disparities and social determinants, and guiding resource allocations. The Division of Primary Care Medicine (SMPR) has in its missions to ensure outpatient care for adult patients, provide access to healthcare for disadvantaged populations, and train the future generations of primary care physicians. In addition, the SMPR conducts research to observe and follow the health

population through the studies of the Unit of Population Epidemiology. (<https://www.specchio-hub.ch/etudes>) mandated by the Cantonal Office of Health. The Specchio study, a longitudinal digital epidemiological study is an example of a powerful tool to monitor health, understand lifestyle and environmental factors, and strengthen partnerships between universities, health institutions and policy makers creating opportunities for interdisciplinary research.

Aim/Objective(s)

The overall aim of the Specchio study is to monitor the health status (ex: self-reported health, chronic diseases, fatigue, hospitalisations and medicines) and well-being (ex: social support, isolation, depression, anxiety) of the general population of Geneva and its determinants. Specific aims of The Specchio study are to

- monitor the health of population for detecting emerging health issues before they become widespread, allowing for early intervention.
- provide guidance and evidence to help inform public health policies, including prevention and health promotion strategies adapted to the local context.
- investigate new and contemporary research questions with an interdisciplinary approach, while forming a scientific basis for temporal comparisons overtime or between subgroups of the population and understanding geographical health disparities.
- guides resource allocation by identifying groups at higher risk for certain conditions.
- provide insights from a population-based study to allow hospitals and policy makers to shift from a reactive to a proactive healthcare model

Methods

The study design is a digital population-based cohort study that started in 2020 (ongoing). Eligible participants are adults from the Geneva population. Participants are invited to register online through the dedicated Specchio-Hub digital platform (www.specchio-hub.ch) and complete a baseline questionnaire. Digital follow-up includes a yearly general and mental health questionnaire, plus up to three thematic questionnaires per year. Using validated scales, data on health outcomes and major lifestyle-related risk factors are collected over time, including smoking, alcohol consumption, physical activity, sedentary lifestyle, nutrition, sleep, occupational factors, work conditions, and environmental risks at both individual and area levels. Methods include regression models, longitudinal data analysis, and geospatial analyses. Regular contact with participants includes newsletters, specific "news" (www.specchio-hub.ch/actualites) and "research" pages (www.specchio-hub.ch/recherches) and in-person events with groups of participants (research partnerships).

Results

As of February 2025, 7,582 participants are included, with an average age of 49 years (standard deviation 15); 57% are women. The participation rate relative to questionnaires is about 60%. The most frequently reported reasons to take part in the Specchio study are the willingness to contribute to research and medicine. Overall, 63% of participants have a tertiary level of education compared to 31% secondary level and 6% primary level, and a trend towards representativeness of the general population is one of the study objectives. Standardization based on Geneva's distribution by age, sex, and education level allows for adjustment and the interpretation of results for the general population. Results show that while 80% of adults in Geneva report being in good or very good health, gender and socio-economic disparities persist. Women report poorer health more frequently than men and consult healthcare professionals more often. Several indicators (perceived health, obesity, low social support, physical exercise, exposure to

physical risks at work, sense of self-efficacy) reveal a social health gradient and a geospatial disparity in health. Depressive disorders, anxiety and low social support are reported respectively by 12.7%, 18.8% and 18.9% of participants. These results call for continuing monitoring population health overtime.

Conclusion

The Specchio study provides valuable insight into the health of the adult general population in the canton of Geneva. Investing in a population-based complements clinical care by equipping hospitals and policymakers with a broader perspective, enabling proactive healthcare planning and ultimately reducing health care costs and expenditures. Preventive actions and the promotion of health are implemented in a more informed and targeted manner, considering the differences between subgroups of the population (age, sex, socioeconomic disparities) or geographical area. By its design, Specchio strengthens partnerships with universities, public health organizations, citizens and policymakers, creating opportunities for interdisciplinary research. The main results are transmitted to the cantonal office of health through an annual report and a new platform to share results in an aggregated format while respecting confidentiality. Since 2020, about 20 articles have been published on the Specchio cohort in peer reviewed scientific journals and diffused to participants via the www.specchio-hub.ch platform. Challenges reside in increasing the sample size, including more diverse profiles (in terms of age and education), and maintaining the study's participation rate over the coming years. Communication campaigns among population and the development of a multilingual platform are some of the planned actions to help attain these objectives.

Conflicts of interest related to this abstract: None

P-4062

Unified Feedback Management System (UFMS) – Improving resolution time, communication, and accountability in healthcare using LLM.

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Introduction

Our patients and their families need constant non clinical / administrative support during the patient stay in the hospital. Currently, our nurses are tasked with managing all request for patients which includes clinical as well as non-clinical request. E.g. Non-Clinical requests include,

1. Housekeeping requests
2. Facility Issues
3. Food & Beverage requests / additions
4. Billing / Invoicing concerns
5. Security Challenges

All such administrative issues are managed by the Nurses, and they act as an intermediary between other departments and patients / patient families. This takes away a significant time of their bandwidth, which could alternatively be used for other addressing clinical needs of our patients. Our estimates prove that nursing team spends close to 1.5 hrs managing such issues every day in every shift. We can save and improve efficiency by over 20% for our nursing team if addressed.

Aim/Objective(s)

The project aimed to enhance patient feedback management through the Unified Feedback Management System (UFMS) by streamlining complaint resolution, improving communication, and increasing transparency. The objectives were to:

1. Automate complaint handling using AI-driven chatbots.

2. Improve complaint resolution time by integrating patient data with Salesforce.
3. Enhance patient experience by providing real-time updates and tracking.
4. Ensure accountability by mapping complaints to responsible departments.
5. Analyze feedback data to identify service gaps and optimize hospital operations.

Methods

The study utilized a quantitative survey methodology to assess user experiences with the Unified Feedback Management System (UFMS). Participants included inpatients and their attendants across multiple hospital units. Sampling followed a stratified random approach, ensuring representation from various service lines (e.g., IP Billing, Nursing, Housekeeping). Data collection involved structured questionnaires administered via WhatsApp chatbots and in-person surveys. Tools employed included Salesforce for data management and analytics, alongside WhatsApp for automated patient interactions. Data analysis was conducted using statistical methods, with trends and response patterns examined through descriptive analytics. Key performance indicators (KPIs) such as complaint resolution time and patient satisfaction scores were measured to assess system effectiveness. The results aimed to inform process optimizations, enhance patient engagement, and improve response times in addressing service concerns.

Key Findings of the Study

1. Improved Complaint Resolution Time:
 - 85% of patient complaints were resolved within the expected Turnaround Time (TAT) compared to 60% before UFMS implementation.
 - Indicates a significant reduction in complaint handling delays.
2. Increased Patient Satisfaction:
 - Survey responses from inpatients and attendants showed a 30% increase in satisfaction scores post-implementation.
 - 72% of respondents acknowledged a more transparent complaint-handling process.
3. Efficient Complaint Routing:
 - Automated complaint routing reduced misrouted issues by 40%, ensuring faster resolution by the correct department.
 - Enhanced department-wise accountability and reduced inefficiencies.
4. Reduction in Escalation Cases:
 - 25% decrease in complaint escalations, demonstrating that UFMS effectively addressed concerns at an early stage.
 - Ensured timely interventions and improved operational efficiency.

Conclusion

UFMS contributes to policy development by standardizing complaint management across healthcare facilities, ensuring a uniform approach to handling patient concerns. It enhances practice by integrating automated workflows, reducing staff burden, and ensuring real-time escalation, which leads to efficient service delivery and improved patient trust. Additionally, UFMS offers research potential by generating data-driven insights into recurring service gaps, enabling hospitals to take proactive quality improvement measures. The structured data collection and analysis allow for trend identification, helping policymakers and healthcare administrators implement targeted interventions. By addressing manual inefficiencies, communication breakdowns, and lack of accountability, UFMS sets a new benchmark for healthcare complaint management. Its scalability ensures it can be deployed across multiple hospital units, optimizing service quality, operational efficiency, and patient satisfaction. PS: The UFMS is also currently named as In

Patient Companion Bot in some hospitals and interchangeably they refer to the same application.

Conflicts of interest related to this abstract: None

P-4063

Use of Artificial Intelligence to support the interpretation of radiological images: the experience of the Emergency Department of Sassuolo Hospital.

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Introduction

This study arises from the desire to evaluate the impact of artificial intelligence (AI) software to support the Emergency Department of Sassuolo Hospital. This proposal comes out from the lack of a radiological guard active twenty-four hours a day. At night, during public holidays and certain slots on weekends, the radiologist is absent and it's up to the emergency physician to analyze the radiological images and to determine the patient's clinical pathway, increasing the risk of errors or diagnostic delays, due to non-specialistic interpretation of radiographs. For this reason, a two-month trial period was launched, during which (Gleamer's BoneView and ChestView) software were tested. These software, supported by AI, were integrated into the emergency department workflow to determine their effectiveness in the interpretation of radiological images, considering that only the radiologist will be able to confirm or not the anomalies detected by the software and to formulate the clinical report.

Aim/Objective(s)

The first objective is to verify the potential increase in sensitivity, specificity and diagnostic accuracy of the emergency physician and the radiologist with the support of artificial intelligence in the interpretation of radiological images, compared to the performances obtained without it. As a second objective, we attempted to verify the usability of the software in the production context, i.e. to evaluate the impact of (Gleamer) on the management of patients, paying special attention to define the appropriate clinical pathway. Finally, the third and final objective is to evaluate the perception of the usefulness of the software in clinical practice, through the administration of a questionnaire to all emergency department and radiology medical equipe at the end of the trial period.

Methods

The sample is made up of 715 patients, of which 383 males and 332 females, with an average age of 50.3 years. Dividing the population by age group, 614 patients are over 16 years old, while 101 patients are aged less than or equal to 16 years. Considering that some patients needed to perform multiple exams, 1062 radiological exams were performed, of which 346 were processed by (ChestView) for the thoracic area and 716 processed by (BoneView) for osteoarticular segments. For each patient, the radiological parameters analyzed using (BoneView) support were fractures, dislocations, joint effusions and bone lesions, while with (ChestView) pneumothoraces, pleural effusions and pulmonary consolidations were considered.

Results

(Gleamer) demonstrated to bring benefits especially in terms of increased diagnostic sensitivity. In particular, (Chestview) has

implemented the diagnostic sensitivity of emergency physician regarding the parameter of lung consolidation (+27%), while (Boneview) has enhanced diagnostic sensitivity in detecting fractures in both emergency physicians (+23%) and radiologists (+7%). Regarding the second objective of the study, relating to the evaluation of clinical impact, most of the corrections made by the software concerned the parameters of fracture (5.45%) and pulmonary consolidation (+8.96%). Particularly the diagnostic corrections made by the software allowed the detection of radiological abnormalities deserving of further specialistic investigation, even before discharge, in 7% of the patients in the study sample, without leading to an increase in inappropriate tests. (Gleamer) influenced a change in clinical decision-making exclusively in the exams processed by (Boneview), demonstrating that, in thoracic pathology, the decision mainly depends on clinical evaluation and the support of other tools, such as bedside ultrasound. Finally, regarding the perceived usefulness of the software, both medical groups showed a higher perception for the ribcage and extremities, and lower appreciation for the spine. The software were considered particularly useful among younger emergency physicians, who have less experience in detecting radiological anomalies.

Conclusion

(Gleamer) has proven to be a valuable diagnostic support for both categories of doctors, radiologists and emergency physicians, especially for pulmonary consolidations and fractures; this advantage has become even more evident in the growing population, where the risk of negative consequences in case of failure to identify a traumatic injury is higher. The software has been generally appreciated in the emergency and radiology medical staff, especially in young emergency doctors, because the AI support improved their expertise in a field for which they had not received specialist training. The diagnostic corrections made by the software helped to identify, before patient's discharge, lesions that needed to be subjected to specialist advice, proving at the same time that they do not lead to a significant increase in further diagnostic tests. Given the positive outcome of the trial period, Sassuolo Hospital decided to proceed with the purchase of (Gleamer's BoneView and ChestView) licenses for a period of a full year, renewable for a further year; furthermore, the license was granted without time restrictions, extending the slot that previously only included night hours and public holidays.

Conflicts of interest related to this abstract: None

P-4065

Value Generation in Healthcare Through the Use of Data Generated by a High-Complexity Clinical Laboratory

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Introduction

Laboratory medicine plays a crucial role in enhancing the interaction between patients and physicians by providing relevant data that guide informed medical decision-making and promote optimal health outcomes for each patient. Traditionally, clinical laboratories have focused primarily on the analytical quality of their reports and the volume and cost of their services. However, the true value of laboratory medicine can only be realized by adopting a value-based service model. This model emphasizes the full integration of laboratories into the healthcare process, contributing to reducing patient harm. Defining clinical

outcomes in laboratory practice is challenging as multiple medical disciplines affect patient outcomes. Nevertheless, these outcomes can be assessed by considering more accurate and timely diagnoses, improved physician treatment selection, a reduction in misdiagnoses, fewer laboratory-related adverse events, and better resource utilization.

Aim/Objective(s)

By ensuring evidence-based laboratory practices, test orders can be optimized, minimizing the adverse effects of their inappropriate use and improving patients' clinical results. To this end, the Clinical Laboratory of Clínica Colsanitas developed and implemented a strategy to generate value from the clinical laboratory by optimizing laboratory results to strengthen health risk management, demand management and generating evidence based on real data through advanced analytics and data interoperability.

Methods

During the planning of the strategy, a structured search for information was conducted to identify opportunities to adapt the traditional health value model to the clinical laboratory business. A review of national and international clinical practice guidelines and recommendations from scientific literature for the construction of useful algorithms in risk management of special populations, demand management and real Word data, based on the tests and laboratory results required during the different care services. Once the opportunities in the different medical conditions to be worked on had been identified and validated, business rules were built in the categories of recruitment, adherence, follow-up, and control. With the basic requirements of demand management, risk management, and special consultations, the business intelligence technological solution was developed, defined as Diagnostics Insights Solutions (DIS).

Results

The health value generation strategy has primarily focused on optimizing laboratory results to support health risk management, demand management aimed at the rational use of healthcare resources, and generating real-world data-based evidence that contributes to knowledge in laboratory medicine.

At an interinstitutional level, the strategy has been integrated into special risk management programs in the outpatient setting, including chronic diseases (Diabetes, Hypertension, Chronic Kidney Disease), Human Immunodeficiency Virus (HIV), Rheumatoid Arthritis, and screenings for early detection of Colon Cancer, Prostate Cancer, and Cervical Cancer, as well as pregnancy management, obesity, and dyslipidemia, among others. Additionally, analytical models have been developed for other internal clients, such as the Renal Unit of one of the group's companies and affiliated clients with their care models. Some of our external clients also receive characterization reports on the populations served by the laboratory, with all information derived from Diagnostics Insights Solutions (DIS). As a reference clinical laboratory processing a high volume of samples, the strategy has already led to the development of a scientific product based on the characterization of lipid profiles in a Colombian population, using retrospective healthcare data – "Real-world data lipid profiles in one million Colombian adults: The LiPAC million person study."

Conclusion

For the past seven years, the clinical laboratory has been working in partnership with one of its providers to develop a BI technological solution known as Diagnostics Insight Solutions (DIS). This solution is a parallel data repository and visualization tool that complements the Laboratory Information System (LIS). It serves as a valuable support tool in various areas, including health risk management, demand management, and real-world data-based research. The development of DIS has been a key

element of the laboratory's strategy for generating health value, which focuses on data, specifically laboratory test results. This strategy has been integrated with various healthcare system stakeholders interested in improving population health risk management, enhancing care indicators, identifying optimal points for healthcare resource utilization, and refining care models for specific medical conditions. Additionally, it positions the laboratory as a leader in actively integrating clinical laboratory services into patient care processes and population health management. Healthcare insurers seek to leverage clinical laboratory support to manage their populations in regulatory reporting better and timely induced demand, ultimately enhancing patient well-being. Therefore, for future stages, it is essential to consider new measurable interventions that demonstrate improvements in health outcomes and the rational use of healthcare resources.

Conflicts of interest related to this abstract: All authors declare conflict of interest for the support received by the supplier Roche Diagnostics.

P-4066

Without a trace: Transforming ECG Workflow Through Digital Transmission

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Introduction

Automation in healthcare is about using technology and digital tools to make healthcare processes faster and easier in handling routine tasks in clinics. Consistent demand for better healthcare and the increase in operational costs and awareness of environmental responsibilities are forcing healthcare companies to look for alternatives to meet these demands. Running a healthcare facility involves numerous workflows. Manually managing all these workflows is time-consuming. Automating workflows streamlines processes and brings hyper-productivity. Response times shorten, patient experience improves and bottlenecks are removed. Errors reduce, overtime decreases and efficiency increases as natural side effects. In the offsite clinics, automation is important to accelerate the test processing, from blood work to image scanning. It enhances the test results' accuracy, reduces analytics time, and allows allied health personnel to focus on complex tasks. These are important aspects of timely diagnoses and treatment plans.

Aim/Objective(s)

To lower operational costs by implementing automated workflow, your organization can significantly cut operational costs without disrupting clinical or administrative processes. Enhance Patient Experience Automation aids patient care by streamlining treatment coordination. Moreover, an automated system helps save time and empower patients to manage their well-being, with customized features to identify high-risk patients needing proactive interventions.

Methods

The PDCA cycle was used for this process improvement project. Plan: Goal: Lower supplies expense compared to last year: Meet TAT of ECG results within 24 hours. Method: Monitor OPEX monthly and annually and compare with last year's OPEX: Monitor achievement rate of TAT of ECG results monthly. Action Plans: Configure system to be able to transmit ECG tracing via online to CDL main: Monitor TAT of results releasing monthly

Do: Process implemented in Makatimed Care Access Araneta(MCA) initially: Configuration and Testing was done in collaboration with IT team and CDL main: Quality of transmitted image of tracing for acceptance checked: Implemented process in Makatimed Wellness Center(MWC) and Makatimed Discovery Primea(DP). Check: Successful configuration and transmission done for tracings of patients of MCA. Results received within TAT. Act: Process will be adapted by MWC and DP. Monthly monitoring for any issues and system errors.

Results

Challenging configuration of the system to be able to transmit the ECG tracing from Offsite Centers to the CDL main. After testing and adjustments in the configuration in the system, CDL main is able to successfully receive the tracings. For MWC – there is a 172% reduction in COS ration vs 2023 and 32% reduction vs target. For Supplies Expense there is a reduction of 108% vs 2023 and 93% vs target. For DP – there is a 117% reduction in COS compared to 2023 and 71% lower than 2024 target. For OPEX, 106% reduction vs last year and 74% lower than target. For Supplies Expense a reduction of 488% vs 2023 and 15% For MCA – there is reduction is COS by 340% vs last year and 99.5% vs target.

For Results TAT Achievement Rate (Threshold = 90%):

MWC – 100%

DP – 95%

MCA – 100%

Conclusion

Automation in healthcare has the potential to significantly enhance service delivery by improving efficiency, reducing human error, and optimizing resource utilization. By automating tasks such as transmission of images and tracings, healthcare providers can streamline workflows and reduce administrative burdens, makes the workflow more efficient. Automation can also improve diagnostic accuracy, treatment planning, and medication administration through the use of automated tools, leading to better patient outcomes. Automating workflows helps eliminate redundancies, minimize delays, and enable real-time communication between departments, which enhances the overall coordination of care. It also ensures that clinicians have quick access to critical information, contributing to faster decision-making. Innovatively, technologies and machine learning are transforming areas like remote patient monitoring and personalized medicine, allowing for more proactive care. By harnessing these innovations, healthcare systems can improve patient experience, reduce costs, and boost overall healthcare delivery, ensuring better accessibility and equity in care. Thus, the automation of healthcare workflows not only supports operational improvements but also empowers healthcare professionals to focus more on patient-centered care, driving substantial improvements in health services.

Conflicts of interest related to this abstract: None

P-4067

"AMPowerCare": empowerment and innovation in breastfeeding

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Introduction

In recent decades, technology has had a surprising evolution, with constant social changes and scientific advances. We live in a society of increasingly digital change, where the use of different applications and the implementation of information sys-

tems are a constant. The health sector has followed this technological evolution and a great many institutions have created innovative responses adjusted to the current reality. This project in creating a health application (App) in the area of breastfeeding (BF), will innovate access to information and offer guidance for postpartum or breastfeeding women, facilitating orientation in possible difficulties felt in this area.

Aim/Objective(s)

This project aims to promote, protect and support exclusive BF up to the sixth month of age, as well as complementing the child's diet up to 2 years or more. We believe that the creation of this App can be an essential support for all breastfeeding women and avoid early weaning.

The main objectives are:

- Promote BF literacy, contributing to Sustainable Development Goals (SDG) 4 "... promote lifelong learning opportunities for all"
- Increase the number of BF consultations, "ensuring access to quality health and well-being for all..." (SDG 3)
- Reduce constraints and overcome barriers for the most vulnerable population, "ensuring equal opportunities and reducing inequalities" (SDG 10)
- Reduce trips to the emergency department
- Improve indicators in the area of breastfeeding
- Replicability in other institutions.

Methods

The "AMPowerCare" App, will be easy, safe, direct access, and available for Android and IOS systems, compatible with computers and mobile devices. It will be structured to respond to frequent questions during the BF period, allowing guidance to a telephone or in-person consultation with a specialized professional. In an initial phase, informative content tabs will be created allowing the information to be organized into flowcharts, with guidelines for action in the most frequent situations that cause insecurities in BF. This information will be structured and validated by a group of health care professional. Subsequently, design and functionality issues will be addressed with the support of computer engineering. The prototype test will be carried out over a period of 3 months with possible adjustments. The sample chosen for the test will be postpartum women and their babies who, in these 3 months, have been discharged directly from the ULSEDV Obstetrics ward.

Results

With the implementation of this project, our intention is to increase the rate of exclusive AM up to 6 months, to ingrain a culture of use of resources in the area of AM that ULSEDV has and to improve the associated indicators: download of the App, increase in face-to-face consultations to support AM; an increase in telephone consultations through the BF helpline and a decrease in the number of trips to emergency services for reasons related to BF discomfort. It is also our intention to present to the Shared Services of the Ministry of Health the proposal for the integration of the "AMPowerCare" App to extend its applicability to the 39 ULS of the National Health Service.

Conclusion

In Portugal, Functional Units of Primary Health Care are currently organized into ULS, which are a model that promotes the integrated management of primary and hospital healthcare(HC) aiming at improving the population's HC. As maternal and child health professionals, we are aware that the duration and success of BF can be influenced by the lack of support felt by breastfeeding woman. To try to remedy this situation and increase the indicators in the area of BF, at ULS-EDV, we intend to create the "AMPowerCare" App. This tool will allow better access and proximity to HC, favoring greater efficiency in the

integrated management of ULS-EDV resources. It is an innovative option that aims to be easy to access, contribute to the empowerment of breastfeeding women and promote BF literacy.

Conflicts of interest related to this abstract: None

P-4069

Performance of a Digital Tool for Automated Insulin Dosing in Hospitalized Patients in Bogotá, Colombia.

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FUNDACION SANTA FE DE BOGOTÁ, Colombia

Introduction

Worldwide, 415 million people have diabetes, and this number is projected to reach 642 million by 2040. Due to its prevalence and complications, hospitalization is common, with diabetic patients representing 20% of hospital discharges and 30% requiring multiple admissions yearly. Hyperglycemia negatively impacts key outcomes, including nosocomial infections and length of stay. In Colombia, insulin dosing and blood glucose transcription are performed manually by doctors and nurses, increasing the risk of errors and consuming valuable time. The rise of continuous glucose monitoring (CGM) marks a new era of real-time data availability; however, neither glucometers nor CGM devices automatically transmit information to medical records in Colombian hospitals. While digital solutions exist in Europe and the U.S., financial constraints have prevented their adoption in the two university hospitals in Bogotá where this project was conducted. To bridge this gap, a low-cost, in-house automation app was developed, tailored to the hospitals' specific needs.

Aim/Objective(s)

To assess the effectiveness and usability of an insulin dosing automation app in hospitalized patients through a mixed-methods study, evaluating its impact on glycemic control and healthcare staff perceptions regarding time efficiency and standardization of practice during a two-month pilot trial in two university hospitals.

Methods

Through a mixed-methods study (quantitative and qualitative), this research aims to evaluate the performance of an insulin dosing automation app. The study will assess glycemic control in a group of hospitalized patients during a two-month pilot trial in two university hospitals. Additionally, it will evaluate the perceptions of healthcare staff using the automation app, focusing on time savings and standardization of practice through semi-structured interviews.

Results

To assess the effectiveness and usability of an insulin dosing automation app in hospitalized patients through a mixed-methods study, evaluating its impact on glycemic control and healthcare staff perceptions regarding time efficiency and standardization of practice during a two-month pilot trial in two university hospitals. This project is currently under evaluation by the Ethics Committee of Fundación Santa Fe de Bogotá. As a result, preliminary findings will be presented at the IHF 2025 Congress.

Conclusion

It is proposed that, in some cases, developing in-house solutions in Colombia can be a good option. This digital tool (mobile and web) is designed for healthcare professionals, automating insulin dose adjustments and selection for hospitalized patients in general wards. It optimizes glycemic control and facilitates the visualization of patient progress.

Potential Advantages:

- Reduction of repetitive tasks for highly qualified personnel

- Improvement in medical care
- Standardization of clinical practice
- Reduction of hospital stays and healthcare costs
- Decrease in medical errors
- Potential to serve as a repository of glycemic data, supporting research and clinical management projects
- Value generation through a clinical alert system, identifying poorly controlled patients who require additional attention

Conflicts of interest related to this abstract: None

P-4070

TEACH – Teleconsulting for Education, Appropriateness, and Collaboration in Healthcare.

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Introduction

The Italian postgraduate training program in General Practice and Primary Care is a three-year, non-university specialization course. The program consists of 4,800 hours, including 1,600 hours of theoretical training and 3,200 hours of clinical practice. In the Lombardy Region, PoliS-Lombardia manages the program and delivers it through educational hubs based in Local Health Trusts (*Aziende Socio Sanitarie Territoriali*, ASST). During their internships, GP trainees progressively assume patient care responsibilities under the supervision of dedicated tutors. However, despite their growing autonomy, they often require specialist support and guidance regarding patient referrals to territorial or hospital-based specialist services. The TEACH – Teleconsulting for Education, Appropriateness, and Collaboration in Healthcare project was developed at the Central Milan Training Hub of ASST Fatebenefratelli Sacco. This initiative introduces a dedicated teleconsultation platform to facilitate structured interactions between GP and specialists.

Aim/Objective(s)

The TEACH project aims to implement a teleconsultation platform tailored for General Practice trainees operating in the metropolitan area of Milan. This initiative seeks to provide real-time specialist support, enhancing the appropriateness of referrals to territorial and hospital-based specialist services. Furthermore, TEACH aims to enrich the educational experience of trainees by promoting structured collaboration between General Practitioners and specialists. The expected outcomes include a reduction in unnecessary specialist referrals, improved patient management within primary care, and strengthened continuity of care between hospitals and community health services. Additionally, the project aspires to optimize outpatient clinic workloads and waiting lists by ensuring that referrals to specialized services are evidence-based and clinically warranted. By integrating teleconsultation into the training pathway, TEACH supports the professional development of General Practice trainees while fostering a more efficient and interconnected healthcare system.

Methods

The TEACH project employs a telemedicine platform compliant with data protection regulations to facilitate teleconsultations between GP trainees and specialists. Trainees can schedule consultations based on priority criteria (e.g., the first available specialist) or request sessions with specialists in their assigned territorial area. The system supports case discussions, chronic disease management, follow-up planning, and the definition of the most appropriate care setting.

The platform enables synchronous teleconsultations (Doctolib) for real-time specialist interactions and asynchronous teleconsultations (Siilo), allowing trainees to securely transmit anonymized clinical data for specialist review. In asynchronous mode, trainees can send relevant clinical documentation, diagnostic test results, and anonymized images, such as photographs of pressure ulcers or dermatological lesions, for specialist evaluation. In the first semester of 2025, the telemedicine platforms were finalized, and activation protocols were defined. Hospital and territorial specialists in Physical Medicine and Rehabilitation, Vascular Surgery, Diabetology, Pulmonology, and Oncology/Palliative Care were engaged.

Results

The Central Milan Training Hub at ASST Fatebenefratelli Sacco organizes the training of 86 GP trainees. Among them, 50 trainees (58.1%) hold a designated underserved area position, meaning they manage up to 1,000 patients during their first and second years of training and up to 1,500 patients in their third year. Additionally, 6 trainees (7.0%) have a temporary appointment replacing a GP who has permanently ceased their practice. Furthermore, 3 trainees (3.5%) are temporarily covering for a GP who is on leave, such as for maternity. Overall, 59 trainees (68.6%) fall into one of these categories, actively managing patient care during their training period (these data are updated as of February 25, 2025). Consequently, more than half of the trainees are already responsible for providing care to assigned patients while still requiring comprehensive training and specialist guidance. They often need to consult with hospital-based specialists and specialists operating in Community Healthcare Centers (Case di Comunità, territorial healthcare hubs in Italy). Given this dual need for clinical responsibility and

structured training, the Training Hub must ensure not only the educational curriculum but also specialist clinical support, transforming daily clinical practice into a continuous learning opportunity for developing procedural and decision-making competencies.

Conclusion

The TEACH – Teleconsulting for Education, Appropriateness, and Collaboration in Healthcare project provides GP trainees with guidance on specialist referrals, necessary diagnostic tests, and defining the most appropriate care setting for chronic patients. This initiative enhances diagnostic accuracy, optimizes resources, and strengthens integration between primary and specialist care. Teleconsultation improves referral appropriateness, ensuring that patients needing specialist evaluation are directed efficiently. It also allows GPs to prescribe necessary tests before specialist visits, streamlining the diagnostic-therapeutic process. By promoting collaboration between primary care and specialists, TEACH contributes to reducing waiting lists for specialist care. Additionally, teleconsultation reassures GPs, preventing unnecessary Emergency Department visits and alleviating pressure on urgent care services. This enhances healthcare system efficiency. For effective implementation, GPs must develop digital competencies, including understanding indications, contraindications, and patient eligibility for teleconsultation and telemedicine. Therefore, beyond platform implementation, structured training programs are essential. These should cover digital literacy, platform operation, patient selection for digital medicine, conflict resolution using digital tools, and integrating telemedicine into diagnostic-therapeutic pathways.

Conflicts of interest related to this abstract: None

TRACK 5: THE HUMAN-CENTRED EXPERIENCE – CORE TO ALL WE DO

P-5001

A commitment to humanization: Improving patient care and professional well-being through the training plan at Fundació Assistencial MútuaTerrassa

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Introduction

In 2022, FAMT implemented a Humanization and Patient Experience Plan with the goal of improving healthcare services and experience of patients, families, and professionals. The plan consists of four strategic lines aimed at fostering an organizational culture of humanization that places the person at the center of care while also improving communication, information, and interactions. The Humanization and Patient Experience Committee is responsible for its implementation. Training plays a fundamental role in transforming organizational culture. It is not only about imparting technical knowledge but also an opportunity to cultivate emotional and communication skills that are essential for providing more human-centered care. Through a structured and participatory approach, professionals

can internalize values such as empathy, respect, and active listening, which in turn enhances the quality of care they provide. For this reason, a training program was launched to raise awareness and equip professionals with skills in effective communication and emotional management.

Aim/Objective(s)

To promote a culture of humanization in the healthcare field through a training program that fosters warm, compassionate, and person-centered care. This program aims to enhance the experience of both patients and healthcare professionals by encouraging relationships based on empathy, mutual respect, and human-centered interaction in every aspect of care. To achieve this, it focuses on developing communication skills and emotional management, key elements in strengthening the connection between professionals and patients, optimizing care quality, and creating a more humane care environment. Through participatory methodologies and practical experiences, the training seeks to integrate these values into daily practice, consolidating a care model where empathy and humanized treatment are fundamental pillars.

Methods

A working team was formed, consisting of representatives from the committee, talent management, and training departments, aligning the training itinerary with the plan's strategic lines. The training focused on practical and applicable strategies, using a participatory approach that included real-life cases and role-playing to ensure integration into professional practice. The program was structured into three blocks: self-awareness of communication style, small-group communication skills work-

shops, and emotional management training. The groups comprised professionals from different fields, areas, and professional backgrounds. To ensure diversity, seats were allocated based on professional profile and area, within working hours. Each session began with an introduction to the humanization plan, contextualizing the objectives. At the end of each training session, satisfaction surveys were conducted.

Results

A total of 53 sessions were held, including 16 self-awareness training sessions (254 participants), 32 communication skills workshops (240 participants), and 9 emotional management courses (137 participants). Participants came from various professional categories, including nurses (26%), administrative staff (22%), doctors (19%), nursing care technicians (14%), technicians (11%), and others (8%). There were professionals who participated in more than one training. They reported high satisfaction, with an average rating of 3.8 out of 4. Professionals highlighted the usefulness of the training in improving empathy, communication skills, and group diversity, as well as the immediate applicability of the knowledge acquired. The following table shows the number of professionals who participated in the training, broken down by professional category, out of the total number of professionals working at FAMT.

Profession	Trained Professionals	Total Professionals FAMT	%
Doctors	83	63	13.20%
Nurses	120	923	13.00%
Nursing care technician	70	514	13.60%
Midwives	6	35	17.00%
Social Workers	19	34	55.90%
Physiotherapists	18	58	31.00%
Pharmacists	3	14	21.40%
Psychologists	8	46	17.40%
Nutritionists	1	8	12.50%
Occupational Therapists	1	9	11.10%
Stretcher Bearer	27	99	27.30%
Administrative Staff	108	374	32.80%
Health Technicians	23	70	28.80%
Monitors	1	10	10.00%

Conclusion

The Humanization Plan, and specifically the training program, has been very well received by professionals, who rated it positively in terms of relevance, applicability, and novelty within our organization, as it reflects a genuine interest in improving care quality from a more human-centered perspective. The training plan has also been supported by leadership, who facilitated attendance and actively encouraged team participation. As professionals took part in the training, a word-of-mouth effect emerged, sparking interest among colleagues and increasing engagement with the program. In its first year, the program successfully trained 16% of the organization's professionals. The training initiative will continue to be expanded with the goal of progressively reaching the entire institution, further strengthening an organizational culture centered on the person. This program has been an innovative contribution by bringing together professionals from different categories in the same training, fostering joint learning and a more comprehensive view of healthcare. Additionally, incorporating self-awareness and emotional management into a continuous training program in the healthcare sector is an uncommon yet essential approach to strengthening the humanization of care, with the potential to influence future policies and research.

Conflicts of interest related to this abstract: None

P-5002

Adapting the Korean Preventive Dentistry Model in a Middle Eastern Healthcare Setting: Early Trends from KMC-LimeTree Collaboration

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Introduction

Preventive dentistry plays a crucial role in reducing the incidence of dental caries, periodontal diseases, and other oral health issues. However, in many parts of the Middle East, awareness of preventive dental care remains low, and regular dental check-ups are underutilized. Many patients only visit the dentist when experiencing pain, leading to late-stage interventions rather than proactive prevention. KMC, in partnership with LimeTree Dental Clinic, has implemented a structured preventive dentistry program modeled after successful Korean practices. This initiative includes patient education on oral hygiene, regular dental assessments, and personalized preventive care plans. The program is designed to not only offer preventive treatment but also educate patients about the importance of oral health, empowering them to take an active role in maintaining their dental well-being. By increasing patient understanding, the initiative aims to shift behavior from reactive treatment to proactive prevention, ultimately reducing the need for extensive dental procedures.

Aim/Objective(s)

1. Increase awareness and understanding of preventive dental care among patients through structured education sessions.
2. Improve patient adherence to regular dental check-ups and hygiene practices by ensuring they understand the benefits of preventive care.
3. Assess early trends in patient behavior changes regarding oral health maintenance and their willingness to incorporate preventive practices.
4. Evaluate the impact of preventive interventions on oral health outcomes, including reductions in plaque levels and improved periodontal health.
5. Develop a scalable model for preventive dentistry that can be adapted across different healthcare settings in the Middle East, with a strong focus on patient engagement and education.

Methods

- Comprehensive patient education sessions: Patients received detailed explanations of proper brushing and flossing techniques, dietary impacts on oral health, and the significance of regular check-ups. Additional time was allocated during consultations to reinforce these concepts, ensuring that patients fully understood the information provided.
- Regular dental assessments, including plaque index scoring, gingival health evaluations, and patient self-reported hygiene habits.
- Follow-up tracking of patient compliance with recommended dental check-ups and at-home oral hygiene practices, ensuring that patients felt supported and engaged in their oral health journey.
- Educational reinforcement through multimedia materials, such as instructional videos and pamphlets in multiple languages, to overcome literacy and language barriers and enhance patient comprehension.

- Analysis of patient retention rates for preventive visits over six months.
- Comparison of oral health metrics (e.g., plaque index, gingival health scores) before and after participation in the preventive program.

Results

- Patient awareness: 78% of patients reported an increased understanding of the importance of preventive dental care after participating in the education program. Patients who received additional educational support demonstrated higher compliance with hygiene recommendations.
- Follow-up adherence: 62% of patients who received preventive care education returned for a follow-up dental check-up within six months, compared to a baseline follow-up rate of 28%. The increase in follow-up rates suggests that improved patient understanding leads to better commitment to preventive care.
- Oral hygiene improvements: Plaque index scores improved by an average of 45% among patients who participated in structured hygiene guidance and follow-up care. Patients who reported greater understanding of preventive care concepts showed a stronger improvement in plaque control.
- Reduction in periodontal issues: Patients with early-stage gingivitis showed a 55% improvement in gingival health scores after consistent preventive interventions. Those who demonstrated a better grasp of the educational content were more likely to adopt improved oral hygiene practices.
- Behavioral change: Self-reported compliance with daily flossing increased from 32% to 68% among patients who received education on interdental cleaning, with many patients stating that they had never been fully aware of the importance of flossing before participating in the program.

Conclusion

The early implementation of a Korean-style preventive dentistry model at KMC and LimeTree Dental Clinic has demonstrated promising outcomes in patient education, follow-up adherence, and oral health improvements. The structured approach significantly increased patient engagement with preventive care and contributed to measurable improvements in plaque control and periodontal health. A key factor in these results was the strong emphasis on patient education, ensuring that individuals not only received preventive treatment but also fully understood why it was essential. Patients who were better informed exhibited stronger adherence to recommended oral hygiene practices and follow-up care. However, long-term sustainability requires continued patient education efforts and strategies to maintain follow-up compliance. Future research will focus on expanding the model to broader populations, refining educational strategies, and assessing its long-term impact on reducing the need for restorative dental treatments. This initiative serves as a foundational framework for integrating preventive dentistry into Middle Eastern healthcare settings and highlights the vital role of patient education in ensuring successful preventive care programs.

Conflicts of interest related to this abstract: None

P-5003

An Integrated Geriatric Emergency Medicine Short Stay Unit to improve access and care for Residential Aged Care Facility (RACF) patients

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Introduction

More than fifty percent of Residential Aged Care Facility (RACF) patients presenting to Blacktown Emergency would be admitted to an Inpatient Unit. The LOS of these patients is typically between 4.6–11.5 days, with known risks of hospital acquired complications (HACs) and poorer health outcomes and experiences. Representations within this cohort are common, and often influenced by fragmented, delayed care by multiple stakeholders who lacked integration or collaboration at a senior level due to limited access to resources at the point of care. Patients are often complex with high care needs, further complicated by cognitive and behavioral challenges, often difficult to manage and support in a busy, highly sensory department increasing the risk of harm. Early collaboration from the point of presentation, including the patient, family and RACF was often not prioritised by the medical and nursing team due to dynamic and competing demands on the rest of the department.

Aim/Objective(s)

To establish a bespoke inpatient short stay unit that could provide expert patient centered care in an environment suitable for meeting the needs of geriatric patients presenting to the Emergency Department who reside within a residential aged care facility. The iGEM unit aimed to improve flow of patients through the ED, and decrease the overall length of stay to lower the risk of Hospital Acquired Complications (HAC), improve transfer of care all whilst enhancing the patient and family experience. The unit would provide resourcing to allow safe and timely assessment and discharge planning through early, shared decision making. With outreach support that extends beyond the emergency department through the integration of key services and key teams within the community.

Methods

Create a 5-bed Short Stay Unit co-located within the Emergency department governed by ED Staff Specialists (FACEMs) to lead a dedicated team to provide timely, multidisciplinary and meaningful care planning, for patients who required no more than 24 hours of treatment. iGEM delivers care in a low stimulus environment, with a focus on timely and collaborative patient and family contact with rapid integration to relevant acute care and sub acute specialties at a consultant level to avoid low impact and non meaningful diagnostic's or poorly targeted treatment regimens not aligned with the overall frailty or patient centered care and experience. Data around the patient experience, access to care, representations, length of stay and Hospital Acquired Complications was collected through surveys, incident management databases and hospital analytical units. iGEM's performance and the lived experience of patients and families at pre implementation, 3 Month and 6 Month post implementation was analysed.

Results

iGEM has demonstrated it has provided efficient, safe and quality care centered on the patient experience.

Clinical Outcomes

- Over 600 patients – Nil (0) harm events
- Advanced Care Planning – Blacktown Hospital 10%, Western Sydney LHD (WSLHD) 7%, NSW Health 15% – iGEM 80%

- Reduction in inpatient mortality, while 14-day mortality (inpatient or outpatient) not increased.
- Significant reductions in representation and readmission rates

Operational Outcomes

- HAT Improvements (KPIs) noted since implementation of iGEM, including improved access and flow through the ED, increased and sustained transfer of care (TOC) 49% to 91% (by creating access to acute bed treatment spaces and direct offloading from Ambulances into iGEM after rapid FACEM review).
- Reduction in length of stay in the emergency department and hospital by 9h and 5 days, respectively, for the over 600 patients that have now accessed the model. 95% of these RACF patients were discharged in less than 24h back to their facility with follow up through integrated out of hospital services.

Positive Patient Experience

- Improved consumer experience with Patient Reported Experience Measures (PREMs) as reported by careers scoring a positive experience of over 75% for all.
- Family Involvement in establishing goals & ceiling of Care – iGEM 90%, Blacktown 44%, WSLHD 38%, NSW 43%

Conclusion

iGEM has demonstrated to be highly effective at improving the overall patient and family experience, whilst remaining an efficient use of departmental resources. This includes significant reductions achieved in length of stay, number of admissions, access to bed availability, Transfer of care from pre-hospital services (NSWAS) and reducing harm whilst providing quality, direct, and dignified care to some of the most vulnerable patients in our community. The Blacktown iGEM unit has now secured permeal funding after external analysis of the pre and post implementation data and marks the flagship site with expansion of implementation for the Model Of Care at Westmead Hospital, Western Sydney Local Health District's largest tertiary center. The unit has exemplified how integration of specialty services, both in hospital and community based when lead at a senior level with dedicated resourcing can challenge what the historically accepted practice of treating geriatric patients within an Emergency setting has been. The iGEM unit is an exciting area for potential research with a current study: "Evaluating the Effectiveness of the Integrated Geriatric Emergency Medicine Short Stay Unit Model of Care: A Retrospective Cohort Study" being approved by the Health Districts Ethics Committee (WSLHD HREC)

Conflicts of interest related to this abstract: Nil

P-5004

Applying Hospital-Based Digital Health Solutions for Early Language Screening and Intervention in Remote Areas of Taiwan

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Introduction

Taiwan's mountainous geography, covering nearly two-thirds of the island, limits healthcare access, with 27% of children experiencing developmental delays, exceeding WHO's 6-8% average. Early childhood language acquisition is crucial for cognitive and social development, making early detection and intervention essential. Hospitals play a critical role in leveraging digital health tools to bridge healthcare gaps, improve early screening, and enhance collaboration among medical professionals, families, and communities. Integrating digital tools enables data-driven solutions that support early literacy and long-

term educational success, aligning with global efforts to improve child health outcomes.

Aim/Objective(s)

This study examines how Digital Language Processors (DLP) and LENA technology support early identification of children with delayed language environments in underserved regions. By integrating hospital-based digital screening with community-led interventions, the initiative aims to improve early diagnosis and guide personalized reading prescriptions. This approach facilitates early interventions, optimizes resource allocation, and strengthens multidisciplinary collaboration among hospitals, educators, and families. Through systematic language screening, healthcare professionals can assess language exposure, identify at-risk children, and provide targeted recommendations to caregivers. Additionally, the project explores how early language interventions contribute to long-term cognitive, social, and academic development. The findings will contribute to best practices for digital screening in pediatric care, promoting equitable healthcare access and enhancing literacy outcomes. This initiative serves as a model for integrating hospital-driven digital health solutions into routine pediatric and primary care services.

Methods

This study was conducted in three preschools in northern Taiwan to examine the role of digital tools in early language assessment. LENA technology was used to measure language exposure in 33 children, with teachers collecting data via Digital Language Processors (DLP) during school hours. Ethical approval was obtained from Taipei Medical University Hospital IRB. The audio data was analyzed for three key parameters: Adult Word Count (AWC), measuring words spoken around a child; Conversational Turn Count (CTC), tracking verbal exchanges between adults and children; and Child Vocalization Count (CVC), quantifying child-initiated speech. Below-average cases received customized reading prescriptions to improve language engagement. Educators and parents were trained in dialogic reading strategies to ensure interventions were reinforced at home and in the classroom. Follow-up assessments will track improvements in language exposure and literacy engagement over time.

Results

A total of 33 children participated, generating 214 recordings. The average recording time was 6.72 hours, with a mean age of 4.9 years. Quiet time averaged 89 minutes, and screen time 1 minute. AWC was 575.52 words/hour, CTC 16.83, and CVC 126.59. The top 25% heard 2.65 times more words (506.96 vs. 191.23), CVC varied by 2.36 times (103.9 vs. 44.02), and CTC by 2.47 times (14.72 vs. 5.96). These disparities highlight significant differences in language exposure, emphasizing the importance of early detection and intervention. The findings suggest that integrating digital health tools into early childhood education can enhance language acquisition. Additionally, hospital involvement in language development initiatives fosters collaboration between healthcare and educational sectors, creating a multidisciplinary support system for children at risk of language delays.

Conclusion

This study highlights the clinical impact of digital tools in early language screening, particularly in remote areas with limited healthcare access. LENA screening technology provides a low-cost, objective method to identify children at risk of language delays and supports personalized interventions through reading prescriptions. The hospital-based digital screening model, integrated with community-led language development efforts, enhances early detection, optimizes referral pathways, and improves interdisciplinary collaboration among hospitals, schools, and families. This approach ensures at-risk children receive

timely interventions and appropriate educational resources. Further development of technology-assisted screening models can enhance accessibility in resource-limited settings. These findings provide a framework for integrating digital health solutions into pediatric care, offering a scalable and cost-effective approach to early language intervention in underserved regions.

Conflicts of interest related to this abstract: None

P-5005

bridging distances: facilitating hospital access for low-income patients

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Introduction

patients across the country. These patients, requiring transport assistance, often faced delays due to a manual process that required social worker involvement for completing transport forms. This created significant waiting times and barriers to timely hospital access. The initiative aimed to bridge these gaps and improve access to services for low-income patients, aligning with the hospital's commitment to providing equitable, patient-centered care. Through Lean interventions, the project streamlined the process, reducing the administrative burden on social workers and improving access for patients. This was particularly critical given the hospital's role in delivering care to vulnerable populations. The project's success demonstrates how process optimization can effectively enhance access to healthcare services, reduce logistical barriers, and improve the overall patient experience.

Aim/Objective(s)

The project aimed to streamline the transport form process for low-income patients, enhancing their ability to access hospital services by minimizing delays and reducing administrative inefficiencies.

Key Objectives:

- Reduce Patient Visits: Decrease patient visits for transport forms from 48 per month to 15 by 2022, and to 5 by 2024.
- Minimize Time Consumption: Shorten processing time for each transport form from 35 to 5 minutes, optimizing time for patients and social workers.
- Enhance Process Efficiency: Improve Process Cycle Efficiency (PCE) from 30.7% in 2022 to 50% by 2024, ensuring smoother operations.
- Scale the Process: Expand the optimized procedure across hospital departments to benefit 4,200 patients by 2024.

The project improved healthcare access for low-income patients through efficiency and patient-centered solutions.

Methods

The project used Lean methodology to identify and address inefficiencies in the transport form process for low-income patients. Participants included social workers, medical staff, administrative personnel, and patients. Sampling focused on patients requiring transport forms during June 2022–Aug 2022, with data collected from hospital records, time-motion studies, and patient satisfaction surveys. Analysis tools, such as Ishikawa diagrams, identified root causes: lack of information, repetitive steps, and limited access to forms. Interventions included integrating transport forms into the hospital's electronic medical records (EMR), training medical staff for direct processing, and implementing automated communication for patients. Additionally, after-hours accessibility was piloted to address time constraints. Data analysis compared pre- and post-intervention metrics, including patient volumes, processing

times, and PCE. Patient feedback was used to validate results and ensure the changes enhanced access while meeting the needs of low-income patients effectively.

Results

The project achieved remarkable improvements in streamlining the transport form process for low-income patients, contributing to enhanced access to hospital services. Key results include:

- Reduction in Patient Visits: The number of patients visiting the social worker office for transport forms decreased significantly from 48 patients per month in June 2022 to 5 patients per month by 2024, marking
- an over 90% reduction.
- Time Efficiency: Processing time for transport forms was reduced from an average of 35 minutes per patient to just 5 minutes, resulting in an 86% reduction in time spent.
- Improved Process Efficiency: Process Cycle Efficiency (PCE) improved from 30.7% in 2022 to 50% in 2024.
- Scalability and Reach: The streamlined process benefited over 4,200 patients in 2024 by expanding the initiative across multiple hospital departments.

Feedback from patients and stakeholders confirmed increased satisfaction due to reduced waiting times and better communication. The integration of digital solutions and extended service hours helped eliminate barriers, enabling easier access to transport forms for vulnerable patients. These outcomes confirm the effectiveness of Lean methodologies in improving healthcare workflows and ensuring more equitable access to services for low-income populations.

Conclusion

The project *Bridging Distances: Facilitating Hospital Access for Low-Income Patients* successfully reduced delays in the transport form process, enabling better access to hospital services for low-income patients. By reducing the number of patient visits to the social worker office from 48 to just 5 per month and cutting processing time from 35 minutes to 5 minutes, the initiative enhanced both patient and social worker time management. This project demonstrates how optimizing administrative processes can bridge gaps in healthcare access, reduce patient frustration, and foster a more efficient, patient-centered approach. By digitizing the transport form and providing after-hours support, the hospital ensured that low-income patients no longer faced unnecessary delays, making healthcare services more accessible. From a policy perspective, the project has the potential to inform broader systemic changes by encouraging the integration of Lean methodologies into administrative workflows. Its success has proven the benefits of digitalization, streamlined processes, and stakeholder collaboration in promoting equity in healthcare access. The project's scalability across departments and hospitals shows its potential for adoption in other healthcare settings, providing a model for improving healthcare delivery to low-income communities and reducing barriers to necessary medical assistance.

Conflicts of interest related to this abstract: None

P-5006

Bridging Islamic faith principles and community-based emergency medical education in Cotabato City, Bangsamoro Autonomous Region in Muslim Mindanao, Philippines

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Introduction

As the sole tertiary government training and end-referral institution in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), Cotabato Regional Medical Center (CRMC) plays a crucial role in strengthening healthcare resilience amid the region's challenges, including natural disasters, armed conflict, and geographical barriers. CRMC is currently the only institution in the Philippines conducting the LIFESAVER's Course, a faith-based and culturally sensitive emergency medical education initiative under the Global FIMA Lifesavers Project. Framed as a communal obligation (fard kifayah) in Islam, the course trains participants in hands-only CPR, AED awareness, choking management, and recovery positions. By integrating Islamic principles into emergency medicine, this initiative enhances community engagement, empowers underserved populations, and provides a scalable model for lifesaving education in conflict-affected regions

Aim/Objective(s)

- Train local religious leaders, faculty, and students in hands-only CPR, AED use, choking management, and recovery positioning, ensuring that these key figures could spread life-saving knowledge throughout their communities.
- Integrate Islamic teachings on life preservation and ethical emergency response, highlighting that saving lives is a communal obligation (fard kifayah) under Islamic law. The course sought to align modern medical practices with religious principles to promote acceptance and adherence.
- Foster community awareness of basic lifesaving techniques as a communal duty, encouraging participants to share their knowledge with others. The goal was to enhance overall community resilience and preparedness by framing emergency medical skills as a moral responsibility, strengthening both individual and collective capabilities in times of crisis.

Methods

Setting and Participants: The course was held at key locations in Cotabato City, including Masjid Jami'ul Ihsan, Kalanganan II, Masjid Tamontaka, and CRMC Masjid. A total of 213 participants, including Ustadhs, faculty members, madrasah students and community members, were involved, emphasizing engagement of influential community figures to ensure widespread knowledge dissemination. – **Program Structure:** The program includes hands-on sessions covering CPR, AED use, choking management, and recovery positioning, aligned with recognized standards, with the integration of Islamic perspective wherein religious leaders emphasized the Qur'anic teachings on saving lives as a moral and spiritual obligation. – **Collaborating Organizations:** The program was coordinated by CRMC, supported by the Department of Emergency Medicine, Muslim Spiritual Care Committee, and Hospital Emergency and Disaster Management Unit, collaborated with PCEM, IMAN, and ICRC, ensuring logistical, educational, and cultural integration for effective community outreach.

Results

The LIFESAVER's Course was conducted in Cotabato City, engaging a diverse group of 213 participants, including 14 religious leaders, 62 faculty members, and 137 students from local

madrasahs. The training focused on hands-on emergency medical skills, ensuring that all participants successfully performed hands-only CPR and demonstrated the ability to operate AED trainers during practical sessions. This accomplishment highlighted the participants' engagement and acceptability to respond effectively to emergencies. Many participants expressed a strong desire to share their newly acquired skills with their local communities, intending to conduct similar training sessions. This willingness to disseminate life-saving knowledge is crucial in extending the program's impact and fostering a culture of preparedness within the region. Participant feedback underscored the significance of integrating Islamic teachings with emergency medical practices. Many noted that this connection enhanced their understanding of the moral and spiritual responsibility to act during emergencies. The training not only provided practical skills but also inspired a deeper sense of duty to help save lives, reinforcing the program's holistic approach to community resilience.

Conclusion

The LIFESAVER's Course represents a pioneering model of faith-based and culturally sensitive emergency medical education, uniquely offered by Cotabato Regional Medical Center (CRMC) – the only institution in the Philippines conducting such training. By integrating Islamic teachings on the preservation of life, the course not only provided essential life-saving skills but also fostered a deeper connection with the Muslim community, making the training more meaningful and impactful.

Key takeaways from this initiative highlight the power of contextual relevance – framing CPR and AED use as a communal obligation (fard kifayah) increased engagement and knowledge retention. Community involvement was also critical, as the participation of religious leaders' built trust and strengthened outreach. Furthermore, collaboration with local and international organizations enhanced the program's effectiveness and reach.

This innovative approach offers a scalable and sustainable model for emergency medical education in underserved and conflict-affected regions, paving the way for future culturally aligned lifesaving initiatives worldwide.

Conflicts of interest related to this abstract: None

P-5008

Co-creating a better experience for patients with hemophilia applying a human-centered design methodology at a tertiary pediatric university hospital

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Introduction

To develop better patient's care programs or education resources you need to apply specific methods to engage with patients, families and other stakeholders to directly tailor content and set the delivery format to meet their needs. At HSJD, patients and families play a vital role in the culture and strategy of the hospital. Listening their voices, understanding the critical points of their experience, and co-creating with them is the core activity of the Patient Experience Unit (PEU). For the past 10 years, the PEU has used Human Centred Design (HCD) to co-create patient-centered and integrated care solutions. The co-created outputs can be more likely to be adopted, sustainable and produce outcomes that matter, and create value for all parties. The HCD is an approach that prioritizes developing empathy for users, working in collaborative multidisciplinary teams,

and using “action-oriented rapid prototyping” concept solutions to enhance meaningful solutions focus on patient needs.

Aim/Objective(s)

The aim of this work was to identify patient unmet needs, potential concerns (“pain points”), and gaps in their experience of care to co-create health care resources to better address end user unmet needs (patients and families) and preferences. We applied a HCD approach through the development of a patient journey to map their common needs along the different stages of their journey. We present this case study to show other care program professionals how they can engage with end users and key stakeholders to co-create their own educational resources or potentially any health care service, or other solution in pediatric health care to better cover end user unmet needs and preferences. Particularly, we present an example and learnings on how the HSJD applied the HCD approach to co-create and develop a hemophilia education program. In addition, the valuable lessons learned across our jointly value co-creation experience

Methods

A qualitative study using a HCD approach to explore the pediatric patients and caregivers’ perspectives on the hemophilia patient journey was performed. It involved the multidisciplinary hemophilia unit team, researchers from the hospital’s PEU team, pediatric patients <18 years of age with severe hemophilia A and B and their families/caregivers. No control group was considered for this project. Semi-structured interviews were designed specifically for each participating group: health professionals, patients older than 8 years of age, caregivers, and other stakeholders, with a duration of 30–90 min. Interviews were recorded and analyzed after transcription. Data underwent qualitative thematic analysis. Interviews were transcribed, and information was divided and categorized in different main areas while the patient journey was built. Based on these insights, we collaborated with key stakeholders and end users to map the patient journey gaps, identify learner needs, and ideate to co-create the hemophilia education program.

Results

HCD is a promising approach to intervention development, implementation, and dissemination that may increase the acceptability and effectiveness of health care services or resources by actively engaging patients and providers in the co-creation process and rapidly iterating innovation prototypes. Helping to maximize success by better address patient unmet needs and preferences.

- The development of a patient journey helped us to map knowledge gaps, identify learner needs, ideate, and provide context to inform the development of content for our hemophilia education program.
- The insights gathered from exploring patient experiences and journeys resulted in a more accurate education program, tailored to the end users.
- The co-creation iterative process with stakeholders and end users has been a successful approach to support multidisciplinary teams in co-designing the hemophilia education program (*Aprend-hemos*) from
- the perspective of how the end users -patients, families and professionals- will understand and use this solution.
- The current prototyped solution had helped to validate the learning experience and optimized the user experience, providing a more meaningful engagement for all stakeholders.
- Other initiatives are also being developed to meet patient needs, including the HemoKit (administered at the onset of the disease) and the annual hemophilia festival.

Conclusion

There is a need to find approaches and methods for enabling system drivers that support and facilitate person-centered models of care. This requires a collaborative effort from all care providers and a strong role for patients and families as active partners in their own care. The use of HCD approaches by health care providers, other stakeholders and, of course, patients, their families and the health care professionals offers a strategic and meaningful opportunity: to develop resources that are more fit for purpose, relevant to each end user needs, and to increase adoption, long-term usability and sustainability of the resources.

The HCD approach offers an effective, efficient, user-friendly and satisfying experience for all participants. Applying this approach to health care could enhance innovation, efficiency, and effectiveness by increasing focus on patient and provider needs. We offer insights into how care providers can use these methods to co-create any health care product, service or resource to better address patient needs and preferences, and provide a better experience for all the end users: patients, families and health care professionals.

Conflicts of interest related to this abstract: None

P-5009

Co-designing integrated social and healthcare services: A design thinking approach to user-centered care

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Introduction

The integration of social and healthcare services requires a user-centered approach to address the complex needs of individuals with disabilities and chronic conditions. Fragmented service delivery and a lack of personalization often lead to inefficiencies, impacting both continuity of care and patient outcomes. To overcome these challenges, Fundació Aspace Catalunya has implemented a Design Thinking methodology to actively involve users, caregivers, and professionals in the co-creation of integrated care solutions. This structured approach ensures that services are tailored to individual needs while improving efficiency, accessibility, and coordination between multidisciplinary teams. This project presents the implementation process, key methodologies, and outcomes of using Design Thinking to enhance social and healthcare integration. The findings provide insights into best practices for participatory service design and its potential for scalability in healthcare and social policy development.

Aim/Objective(s)

The objective of this study is to analyze the application of Design Thinking in developing integrated social and healthcare services. Specifically, it aims to:

- Assess how co-design methodologies improve service personalization and patient experience.
- Evaluate the impact of user feedback on service accessibility, continuity of care, and efficiency.
- Identify challenges and facilitators in applying Design Thinking to multidisciplinary healthcare teams.
- Develop a replicable framework for integrating participatory design into policy, practice, and digital transformation initiatives.

Methods

This project employed a Design Thinking framework to co-create integrated social and healthcare services with the active participation of patients, caregivers, and multidisciplinary professionals.

- Participants: Individuals with disabilities, family members, healthcare providers, and social service professionals from Fundació Aspace Catalunya.
- Process: The methodology followed five iterative stages – Empathize, Define, Ideate, Prototype, and Test – to identify patient needs and develop service improvements.
- Data Collection: User interviews, co-creation workshops, journey mapping, and focus groups were conducted to gather qualitative insights.
- Analysis: Thematic analysis was used to identify key barriers, pain points, and opportunities for improving patient-centered service design.

This structured approach ensured that solutions were evidence-based, user-driven, and adaptable for future implementation at scale.

Results

The implementation of Design Thinking in integrated social and healthcare services led to several key findings:

- Improved patient experience: Personalized care pathways enhanced user satisfaction and engagement.
- Optimized service coordination: Faster and more efficient information-sharing between healthcare and social care teams.
- Innovative service adaptations: New digital tools and workflow modifications were introduced based on co-creation sessions.
- Increased professional collaboration: Greater alignment between medical, social, and rehabilitation services, reducing redundancies.
- Scalability potential: The model demonstrated feasibility for broader policy integration in social and healthcare planning.

The results highlight Design Thinking as an effective methodology to bridge gaps in integrated care, enhance service personalization, and align digital transformation with real user needs.

Conclusion

The application of Design Thinking in integrated social and healthcare services has demonstrated its effectiveness in enhancing patient-centered care, improving service coordination, and fostering innovation. By actively involving patients, caregivers, and professionals, the methodology has led to more personalized care pathways, optimized workflows, and the integration of digital solutions tailored to user needs. This approach provides a scalable and replicable framework for other organizations seeking to bridge gaps between social and healthcare services. The findings support the adoption of co-creation methodologies in policy and practice, aligning digital transformation with real-world patient experiences. Future implementation should focus on strengthening digital tools, ensuring interoperability between systems, and expanding participatory models in healthcare governance. As Fundació Aspace Catalunya's experience illustrates, human-centered innovation is key to achieving sustainable, effective, and inclusive care models.

Conflicts of interest related to this abstract: None

P-5010

Compassionate End-Of-Life care: A Decade of Emergency Department Initiatives to Integrate Palliative Care Services

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Introduction

Patients facing serious illnesses, whether sudden catastrophic conditions or prolonged terminal diseases, often seek urgent help at the ED. Traditional ED workflows are designed for life-saving interventions rather than end-of-life (EOL) care. Without early recognition of palliative needs and structured palliative care pathways, these patients in critical distress may experience unnecessary interventions and suffering, while their families struggle with limited support in a high-intensity, chaotic setting. Recognizing this gap, NUH EMD became Singapore's first emergency department to implement a structured EOL care model, ensuring dignified, patient-centered care in an acute setting. Since 2014, NUH EMD has developed numerous EOL care initiatives, integrating palliative principles into routine emergency care workflows. NUH EMD has transformed acute care delivery, balancing clinical priorities with enhanced patient and family experience. This initiative serves as a scalable model for EDs worldwide, demonstrating how emergency settings can integrate palliative care without compromising efficiency or operational effectiveness.

Aim/Objective(s)

We aim to share how we enhanced the quality of EOL care in ED by integrating structured palliative care principles within emergency workflows using the following key components:

1. Adaptation and incorporation of palliative care principles into ED workflows
 - Standardized EOL care bundle using digital resources;
 - Symptom management protocols; and
 - Shared decision-making and goals-of-care discussion with patient/ family.
2. Improving Healthcare provider competency
 - ED-specific palliative care training for ED physicians and nurses (known as the EOL Management Plan Offered Within the Emergency Room "EMPOWER" Course);
 - Advanced-trained nurse in palliative care (known as the ChAmpion Resource Nurse for EOL care in ED "CARE" Nurse).
3. Enhancing Patient's and Family's experience
 - Private rooms with flexible visitation rules;
 - Psychosocial support by bereavement counsellors/ social workers.
4. Leadership advocacy for ED palliative care
 - Promote acceptance of this new subspecialty for emergency care providers for a holistic approach to complex patient care at the end-of-life.

Methods

We integrated comprehensive EOL care in ED with the following initiatives:

1. Development and Implementation of ED EOL Protocols: Guidelines established for medication management and palliative-specialist referrals. An EOL module was integrated into EPIC for early patient identification and standardized documentation.

2. Standardized Training for Emergency Providers: ED providers participated in the EMPOWER course, covering prognostication, symptom management, goals-of-care discussions, and comfort care. Training was reinforced through interdisciplinary case discussions, bedside mentorship and structured debriefings.
3. Dedicated ED Palliative Care Nursing Support: Dedicated ED nurses received advanced training in clinical guidelines, opioid management, subcutaneous cannula insertion, early palliative care advocacy and social services coordination.
4. Patient- and Family-Centered Care Environment: A quiet room was established within the busy environment of the ED, offering a private space for families with flexible visitation and bereavement support.

These strategies enhanced the quality of ED palliative care with continuous data collection guiding iterative improvements.

Results

Since the implementation of NUH ED's palliative care initiative, structure training and workflow enhancements have significantly improved care delivery. To date, 445 ED clinicians and nurses have been trained, with 95% of current staff completing the programme. Training completion rates remain high, with 99.5% passing post-test assessments, reflecting a median knowledge improvement of 37.5% ($p < 0.001$).

Clinical workflows saw measurable improvements. The number of ED patients identified as palliative increased from 7 per month (before 2015) to 20 per month post-implementation, reflecting enhanced provider awareness and workflow integration. Terminal symptom management improved from 8.3% to 84.3%, attributed to better EOL symptom recognition and optimised medication use. Additionally, 97.5% of palliative patients were able to be with family, a significant increase from 26.7% pre-intervention. Palliative nurses and ED physicians report increased confidence and efficiency in managing EOL care. 63% of surveyed ED nurses rated their confidence in managing palliative patients as good/ very good, up from 13% before the initiative. Their satisfaction with EOL care provision increased by over 4 times its original level. These results demonstrate the impact of structure palliative integration in the ED, enhancing provider competency, symptom relief, patient care quality and family-centred support.

Conclusion

The NUH ED Palliative Care Initiative demonstrates how a decade of structured development, combined with digital integration with EPIC, has enhanced both clinical and operational outcomes while prioritising patient experience. Systematic integration of palliative care pathways has ensured seamless transitions to appropriate inpatient or community care settings, reducing unnecessary interventions while improving clinician efficiency and confidence in managing complex cases. Additionally, NUH has introduced a structured approach to prioritizing inpatient bed allocation for EOL patients, ensuring timely ward transfers and minimizing prolonged ED stays for those requiring comfort-focused care. With an aging population and increasing demand for palliative services, EDs must be equipped to provide timely, dignified end-of-life care rather than defaulting to aggressive interventions. NUH's model highlights the emerging role of emergency palliative care as a distinct subspecialty within Emergency Medicine, ensuring that EOL patients receive compassionate, patient-centered care even in high-acuity settings. This initiative reinforces that enhancing clinical and operational efficiency does not have to come at the expense of compassionate, high-quality care. By demonstrating that palliative care can be successfully embedded within the ED as a structured discipline, NUH's model sets a new benchmark for digitally enabled, patient-centred emergency care.

Conflicts of interest related to this abstract: None

P-5011

Culture-Building for Sustainable Healthcare Excellence: AGH's Journey to a Purpose-Driven Workforce

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Introduction

The effectiveness of any healthcare institution relies on infrastructure and medical technology and also on the strength of its organizational culture. Almora General Hospital (AGH) recognizes that a well-defined, value-driven culture is critical to sustaining excellence in patient care, operational efficiency, and employee engagement. As AGH transitions from a flat structure to a distributed leadership model, the focus is on fostering accountability, psychological safety, and professional development at every level. Healthcare environments are inherently high-stress, making it essential to establish a culture that promotes collaboration, trust, and continuous learning. Through intentional leadership strategies, AGH aims to empower employees, optimize hospital operations, and ensure compassionate patient-centered care. This initiative aligns with AGH's mission of providing affordable, evidence-based care while maintaining a work environment that retains talent, nurtures future leaders, and upholds the highest ethical standards. This study explores the transformation journey of AGH's culture-building initiative and its impact on hospital sustainability.

Aim/Objective(s)

The primary aim of this initiative is to cultivate a culture of sustainable healthcare excellence by shifting from a flat management structure to a distributed leadership model. This transformation is designed to:

- Empower healthcare professionals at all levels to take ownership of their roles.
- Foster collaboration and accountability in decision-making processes.
- Enhance patient care outcomes through a culture of continuous learning and improvement.
- Strengthen staff retention and engagement by promoting psychological safety and professional growth.

By embedding leadership principles into daily hospital operations, AGH seeks to reduce burnout, enhance efficiency, and build a resilient workforce capable of adapting to evolving healthcare challenges. The objective is not only to improve immediate performance but also to establish a long-term framework for sustainable hospital management that ensures consistent, high-quality care for the people of Kalinga province, Philippines

Methods

The culture-building initiative at AGH follows a structured, multi-phase approach:

1. Leadership Development & Training – Hospital leaders and department heads undergo coaching on distributed leadership, emphasizing ownership, communication, and trust-building.
2. Psychological Safety & Feedback Mechanisms – Safe spaces are created for staff to voice concerns and contribute ideas, supported by anonymous feedback channels.
3. Performance-Based Recognition – A new system highlights employee contributions and professional growth, reinforcing a culture of meritocracy.
4. Process Optimization & Decision Empowerment – Frontline medical staff and mid-level managers are empowered to make timely patient care and operational decisions without excessive bureaucratic delays.

5. Sustainability & Continuous Improvement – Regular culture audits and leadership check-ins ensure adaptability and alignment with AGH's long-term goals.

This structured methodology ensures that AGH's cultural transformation is measurable, scalable, and deeply integrated into daily hospital operations.

Results

The implementation of AGH's culture-building initiative has yielded significant improvements across various hospital functions:

- Enhanced Employee Engagement – Staff participation in decision-making increased by 30%(approx.), fostering a greater sense of ownership and collaboration.
- Reduction in Operational Bottlenecks – By shifting to a distributed leadership model, AGH reduced decision-making delays by 40%(approx.), leading to faster patient processing times.
- Improved Patient Satisfaction – Feedback scores indicate a 20%(approx.) improvement in patient trust and experience, linked to a more responsive and accountable hospital workforce.
- Higher Staff Retention Rates – A marked increase in employee retention was observed, particularly 30% (approx.) among nursing staff, due to a stronger emphasis on psychological safety and career growth opportunities.
- Efficiency in Crisis Response – AGH demonstrated quicker adaptability during emergencies, as distributed leadership empowered medical teams to act decisively without waiting for top-down directives.

These results confirm that leadership distribution, cultural alignment, and accountability mechanisms significantly enhance both hospital efficiency and healthcare outcomes. The improvements in staff morale, patient satisfaction, and process optimization underscore the sustainability and scalability of AGH's culture-building model.

Conclusion

AGH's culture-building initiative demonstrates that shifting from a flat management model to a distributed leadership framework creates a more resilient and efficient healthcare institution. By prioritizing psychological safety, leadership development, and accountability, the hospital has fostered an environment where employees feel valued, engaged, and empowered.

Key learnings from this transformation include:

- Culture is a strategic asset – A well-defined organizational culture directly impacts patient care, operational efficiency, and staff well-being.
- Leadership must be shared – Empowering employees at all levels accelerates decision-making, reduces burnout, and fosters innovation.
- Continuous feedback drives sustainability – Regular culture audits and leadership check-ins ensure the model remains adaptable and effective.

Looking ahead, AGH will further refine its leadership programs, expand its recognition systems, and develop structured mentorship initiatives to strengthen leadership succession planning. This initiative serves as a replicable framework for other healthcare institutions seeking to build a high-performance, patient-centered culture that sustains excellence over time.

Conflicts of interest related to this abstract: None

P-5012

Development and Implementation of a Standardized Response Manual for Complaint Cases to Enhance Patient Experience

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Introduction

As patient expectations for hospital services become increasingly sophisticated, they demand not only high-quality medical care but also a positive overall experience. The number of Voice of Customer (VOC) cases reported at hospitals is rising annually, yet inconsistent responses from staff to similar complaints contribute to negative patient experiences. Additionally, handling patient complaints places a significant emotional and psychological burden on healthcare staff. Therefore, there is a need to develop an evidence-based, standardized response manual to ensure consistency in handling frequent complaints, improve patient satisfaction, and alleviate staff workload and stress.

Aim/Objective(s)

This study aims to standardize response manual for hospital complaints to reduce employees' emotional labor and work-related stress while enhancing the patient experience. By developing an evidence-based standardized response manual, hospitals can ensure consistent and systematic handling of similar complaints. This standardization not only improves problem-solving methods and work efficiency for hospital staff but also alleviates emotional burden and workplace stress, ultimately reducing overall workload. Furthermore, by proactively identifying and preventing potential patient inconveniences, the study seeks to decrease the number of received complaint VOC (Voice of Customer) cases and contribute to a more positive patient experience.

Methods

VOC data from various channels, including phone calls, suggestion boxes, in-person visits, online submissions, and mobile platforms, were collected from Seoul National University Hospital. The data were categorized by type and frequency through the hospital's HIS system. Complaints were classified into human-related, procedural, and environmental factors, with the most frequently reported cases further categorized into 12 key complaint types. Based on legal guidelines and hospital policies, standardized response protocols and customer service scripts were developed. The effectiveness of the manual was assessed by analyzing annual VOC trends and conducting a Likert-scale survey to evaluate improvements in complaint resolution and work efficiency.

Results

Following the implementation of the standardized response manual, significant improvements were observed. A mobile-based Likert-scale survey was conducted among 1,914 SNUH employees from November 19 to December 22, 2024. Results indicated an increase in scores for problem resolution and work efficiency by 2.8 and 1.0 points, respectively, compared to 2023. Additionally, the number of VOC complaints decreased by an average of 13% per year, with procedural complaints showing a particularly notable reduction of 30.9%. These findings suggest that the standardized manual effectively mitigated patient inconveniences and enhanced the overall hospital experience.

Conclusion

The development and implementation of a standardized response manual contributed to both staff work environment improvement and patient experience enhancement. By proactively addressing and systematically managing patient complaints, hospitals can improve patient satisfaction and strengthen trust. Moving forward, continuous updates to the manual based on ongoing VOC analysis and hospital environment changes will be necessary. Furthermore, integrating staff training and performance evaluations will help sustain the manual's effectiveness, ensuring a higher-quality patient experience and more efficient hospital operations.

Conflicts of interest related to this abstract: None

P-5013

Development of a mobile application informational content aimed at secondary prevention after an acute coronary syndrome.

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Introduction

The use of mobile applications in cardiovascular health has grown significantly, offering new opportunities to improve medical adherence and control of cardiovascular risk factors. An essential component of post-acute coronary syndrome (ACS) management is ensuring a smooth and effective transition from hospital discharge to home. Patients receiving clear and structured information can improve adherence to treatment and prevent secondary events. The purpose of this study is to assess the informational content of a future mobile application designed for patients recovering from an ACS. By evaluating its cognitive, emotional and behavioural impact, this study aims to determine the app's potential as a supportive tool for improving cardiovascular risk management and medical adherence.

Aim/Objective(s)

This study aims to evaluate the informational content of a future mobile application designed for patients recovering from an ACS. The objective is to assess its relevance in improving cardiovascular risk factor control and medication adherence, therefore optimizing secondary cardiovascular prevention.

Methods

Informational and educational content was developed to address cardiovascular risks factor control and medical treatment adherence. We used 2 questionnaires to evaluate the content of the app. The "Usefulness Scale for Patient Information Material" (USE), consisting of 9 questions (3 for cognitive aspects, 3 for emotional aspects and 3 for behavioral aspects) to assess the subjective usefulness of information material on a scale from 1 (disagreement) to 11 (agreement). We also submitted a semi structured questionnaire with four open-ended questions to collect general comments.

Results

The content was tested in 10 patients (90 % male), with a mean age of 67 ± 10 years, after an ACS (5 patients had a non-ST elevation myocardial infarction and 5 had a ST elevation myocardial infarction), enrolled in an outpatient cardiac rehabilitation program. The USE questionnaire revealed respectively an average score of 9.6/11 for cognitive aspects, 8.5/11 for emotional aspects, and 9.5/11 for behavioural aspects. Open-ended responses highlighted that the content was clear, didactic and well-structured.

Conclusion

The informational content of this mobile application addressed to patients after an ACS showed a high score for cognitive and behavioural aspects. The emotional aspects seem to be less covered, meaning the health care staff interventions remain crucial to cover patients' emotional needs. This content represents a promising tool for an optimal secondary cardiovascular prevention in patients following a myocardial infarction.

Conflicts of interest related to this abstract: None

P-5014

Empathy-Driven Innovation: Human Centered Design Thinking for Transforming Healthcare Delivery

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Introduction

Healthcare systems in LMICs face unique systemic challenges, particularly in high-stakes areas like Emergency Medicine (EM) and Intensive Care Units (ICUs). Resource limitations, fragmented workflows, and communication gaps exacerbate inefficiencies, compromising patient care and operational outcomes. These challenges necessitate innovative approaches tailored to address the specific needs of critical care environments.

Human-Centered Design Thinking (HCDT) offers a transformative methodology to tackle such issues by prioritizing empathy, collaboration, and iterative problem-solving. By aligning systemic improvements with the needs of patients, families, and care teams, HCDT can enhance both clinical outcomes and operational efficiency. In this context, HCDT workshops were conducted in 2024 at Evercare hospitals in Lekki, Lagos, Nigeria, and Lahore, Pakistan, focusing on identifying and resolving critical issues in emergency and intensive care management.

Aim/Objective(s)

The workshops aimed to:

1. Identify critical pain points within emergency and intensive care operations, including specific units such as the Emergency Department, PICU, NICU, MICU, SICU, CCU, and Special Care Units.
2. Co-create actionable solutions through multidisciplinary collaboration among participants from diverse professional backgrounds.
3. Foster a culture of empathy-driven innovation to enhance patient care, team dynamics, and operational efficiency.
4. Empower participants to integrate design thinking principles into their daily workflows, encouraging sustainable and innovative practices.

Methods

The two and a half day long workshops at Lekki and Lahore employed Stanford d.school's five-step HCDT framework: Empathy, Problem Definition, Ideation, Prototyping, and Testing. Each step was implemented in a structured manner, as listed below briefly.

- During the Empathy phase, participants reflected on patient and staff interactions to create detailed empathy maps.
- Problem Definition session helped participants dissect identified challenges, encouraging participants to craft "how might we" questions.
- The Ideation phase involved brainstorming sessions using divergent and convergent thinking techniques to generate and refine solutions.

- Prototyping activities encouraged participants to create tangible models, such as digital tools or workflow processes.
- The Testing phase involved conceptualizing success metrics and feedback loops for real-world application.
- They were designed to be contextually relevant for LMIC settings, emphasizing low-cost, scalable, and inclusive approaches to foster innovative problem-solving.

Results

A total of 41 participants attended the sessions in Lekki, and 45 in Lahore, with completed evaluations from 23 participants at each site. The majority of respondents were aged 31–40 years (52.2% in Lekki and 56.5% in Lahore), with a slightly higher proportion of males at both locations.

Key Findings

1. Lekki (Emergency and Acute Care):

- Pain Points: Inefficient referrals, delayed emergency responses, and fragmented communication.
- Solutions: Referral coordinators, standardized checklists, and digital tools for communication.
- Metrics: Potential to reduce delays and improve patient satisfaction.

2. Lahore (ICU Management):

- Pain Points: Delayed triage protocols and lack of empathy in patient care.
- Solutions: Empathy training leading to the establishment of Empatheon and revised triage protocols.
- Metrics: Improved staff confidence, triage accuracy, and patient satisfaction.

Conclusion

The success of these workshops highlights the potential of HCDT to foster a culture of empathetic and innovative healthcare delivery. By addressing critical pain points with resourceful and scalable solutions, HCDT provides a replicable framework for sustainable transformation in healthcare systems.

Strategic Outcomes

- Enhanced Quality of Care: Strengthened patient and employee experiences through empathy-driven design.
- Innovation and Diversification: Solutions developed during the workshops demonstrate the potential for broader application and adaptation across varying healthcare settings.
- Scalability and Adaptability: The methodologies emphasize feasibility in resource-constrained environments while remaining adaptable to diverse healthcare contexts.
- Skill Development and Sustainability: Training initiatives and iterative processes create a foundation for continuous improvement and measurable impact.

Future Directions

1. Prototype validation: Testing solutions in real-world settings with a focus on measurable outcomes such as patient satisfaction and operational efficiency.
2. Scaling training programs: Expanding HCDT workshops to other regions, tailoring modules to address unique challenges and opportunities.
3. Integrating HCDT into broader frameworks: HCDT's methodology aligns with broader innovation management frameworks which emphasize scalable, context-driven solutions for sustainable transformation in healthcare.

HCDT's structured approach not only fosters empathetic and innovative solutions but also addresses inefficiencies that directly impact hospital operations.

Conflicts of interest related to this abstract: None

P-5015

Empowering Children's voices: Integrating Children's Active Participation and Inclusion in Pediatric Healthcare at IRCCS Istituto G. Gaslini

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Introduction

Patient-centered experience is at the core of innovation in global healthcare systems. The VOICE Childhood Ethics project (VOICE), developed by McGill University researchers, promotes childhood ethics by recognizing children as active moral agents in decision-making processes with the capacity to understand what is right and wrong in matters that affect them and their interests. The IRCCS Istituto G. Gaslini has launched a collaboration as community partner with VOICE, with the goal of integrating it across different care, organizational, and research areas. This comprehensive implementation aims to enhance and listen the voices of young patients, improve the quality of care, develop innovative practices based on children's active participation. This project has become a key element in fostering a more child inclusive healthcare culture, oriented towards ethics and the direct involvement of children and their families in care pathways and decisions, contributing to a systemic and sustainable transformation in the hospital's approach.

Aim/Objective(s)

The project aims to integrate the VOICE project principles – child participation and ethical inclusion – within the IRCCS Istituto G. Gaslini activities as a corporate program, aligning with its institutional mission of providing high-quality and safe pediatric care that listen to children voices to understand and protect their interests. The objective is to evaluate with stakeholders the need for a cultural adaptation of VOICE principles to the Italian context to develop a proper ethical framework that can be introduced and implemented within several healthcare, organizational, and research areas of the hospital.

Methods

The VOICE implementation follows a structured, multi-phase approach. First, a preliminary analysis has assessed its alignment with Gaslini's mission and identified gaps in child participation through meetings with experts and hospital leadership. Then, stakeholders will evaluate the need for cultural adaptation of VOICE principles to develop an ethical framework for Italian context. A preliminary assessment of healthcare staff's ethical knowledge and competencies will be conducted, followed by tailored workshops and materials to enhance shared decision-making with children. Awareness and engagement strategies will include digital surveys, outreach initiatives, collaboration with patient associations. Data collection will involve surveys, interviews, stakeholder feedback. Monitoring and evaluation will use key performance indicators to assess child participation, staff training, and perceived care improvements. All steps will be regularly overseen and refined by a multidisciplinary team of healthcare professionals, researchers, and patient representatives, with guidance from a Youth Advisory Council to ensure a patient-centered approach in decision-making.

Results

This project advances participatory pediatric healthcare by strengthening child involvement in their healthcare experiences. A key outcome is the recognition of young patients as active moral agents rather than passive recipients, fostering their autonomy and empowerment. By actively listening to children, the initiative ensures their interests are understood and protected with respect. Integrating their voices into decision-making leads to personalized and responsive care pathways, improving treatment alignment with individual needs, preferences, and emotional well-being. Beyond direct patient care, the project drives cultural transformation in pediatric healthcare by equipping professionals with essential skills, competence, and tools to engage children meaningfully and support shared, ethical decision-making. In the long term, this initiative has the potential to establish an institutional model for participatory pediatric healthcare, serving as a framework for ethical child involvement across clinical, research, and policy settings.

Conclusion

Integrating VOICE at Gaslini represents a transformative step toward a more child-centered healthcare system. By embedding child participation and ethical engagement into clinical practice, research, and institutional policies, the project aims to create a sustainable model that enhances pediatric care quality and sets a benchmark for global hospital networks. Some healthcare professionals tend to be less sensitive to ethical issues, considering them an extra that cannot be prioritized when time is limited. However, common ethical violations, such as excluding children from discussions and decisions that concern them, can have serious psychological consequences, amplifying distress, humiliation, and trauma, and fostering isolation. This initiative fosters a culture where young patients are actively involved in decisions, improving both their well-being and the effectiveness of care pathways. VOICE introduces an innovative framework for participatory pediatric healthcare, providing structured tools adaptable across different settings. Beyond clinical practice, it shapes policy by establishing guidelines for ethical child engagement in decision-making. The project also drives research, offering insights into the impact of participatory models on pediatric health. Through collaboration with VOICE international partners, Gaslini strengthens global knowledge exchange and research development, reinforcing its leadership in child-centered innovation.

Conflicts of interest related to this abstract: None

P-5016

Empowering Individuals with Complex Neurological Conditions: Assistive Technology as a Tool for Autonomy and Participation

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Introduction

Individuals with complex neurological conditions such as cerebral palsy face daily challenges in mobility, communication, and access to activities that are meaningful to them. Rather than adapting people to rigid environments, assistive technology should adapt to the person's choices, abilities, and preferences, facilitating their participation in daily life. Fundació Aspace Catalunya has developed a technological support service that prioritizes individualized solutions. People express their needs and goals, and a collaborative network of healthcare professionals, engineers, educators, families, and caregivers work together to develop the right tools to help them achieve their objectives. This process has the complexity of

bridging technical and clinical perspectives, but we have a scalable and sustainable model that places the individual at the center of decision-making, ensuring that technology serves people – not the other way around.

Aim/Objective(s)

This study aims to evaluate how assistive technology enhances autonomy, participation, and self-determination for individuals with complex neurological conditions.

Specific objectives include:

- Empowering individuals to set their own goals and choose the technologies that support their mobility, communication, and engagement in activities.
- Creating adaptive solutions that evolve based on each person's needs and preferences.
- Understanding the role of collaboration, where technology specialists, neurorehabilitation professionals, and caregivers act as facilitators – not decision-makers.

Expanding assistive technology beyond healthcare, ensuring its integration into educational and social environments

Methods

A person-centered participatory approach was used to co-create assistive solutions in collaboration with users. Methods included:

- Personalized Assessments: Individuals with complex neurological conditions were actively involved in defining their needs and testing prototypes.
- Collaborative Technology Development: Partnerships with different stakeholders led to innovations such as a robotic arm, enabling users to participate in cooking workshops, artistic activities, and leisure experiences.
- Iterative Feedback Process: Continuous refinement of solutions based on user experience, family perspectives, and professional insights.
- Data Monitoring & Analytics: Using Power BI, we analyzed real-time usability, engagement, and impact on autonomy.

Results

Preliminary results indicate significant improvements in:

- Personal autonomy: Users can engage in activities of their choice, from independent movement to expressive communication.
- Reduction of external dependency: Technology enables individuals to perform daily tasks without full reliance on caregivers.
- Increased well-being and social participation: Users report greater satisfaction in participating in activities that matter to them.
- Effective collaboration: Specialists, caregivers, and families recognize the shift in perspective – they support, but the person decides.
- Scalability and integration potential: Findings suggest the model can expand beyond healthcare

These results will be presented in detail at the congress, emphasizing the importance of a person-centered, adaptable approach in assistive technology.

Conclusion

The implementation of assistive technology at Fundació Aspace Catalunya has demonstrated that the best technological solutions are those that put the person first. The role of healthcare professionals, engineers, educators, and caregivers is to support – not dictate – the use of technology, ensuring that individuals with complex neurological conditions can define their own paths and actively participate in life. The success of this scalable and sustainable model confirms that assistive technology is most effective when guided by individual goals, not institutional structures. Moving forward, the focus will be

on: Assistive technology is not just a tool – it is a means for people to exercise autonomy, make choices, and fully engage with the world on their own terms.

Conflicts of interest related to this abstract: None

P-5017

Empowering Nursing Practice in Postoperative Pain Management for Cardiothoracic Surgical Adult Patients: A Pilot Study

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Introduction

Postoperative pain management is a critical aspect of successful postoperative care and recovery for cardiothoracic surgical (CTS) patients. They often experience severe and prolonged neuropathic and nociceptive pain due to the particularly invasive nature of procedures. Effective pain control is essential optimizing clinical outcomes, reducing complications, and enhancing functional recovery. Despite its importance, postoperative pain in patients is frequently under-assessed and inadequately managed among nurses globally, leading to physiological and psychological stress such as impaired respiratory function, delayed mobilization, anxiety, and depression.

Nurses play a unique and pivotal role in effective pain management with patient communication and clinical expertise. However, studies reveal practice variance with inconsistent practices and inadequate analgesics administration among nurses. A pilot study was therefore designed with an educational seminar based on the Knowledge, Attitude, and Practice (KAP) model for patient outcome optimization by nursing empowerment on updated knowledge, positive attitudes, and evidence-based practices regarding postoperative pain.

Aim/Objective(s)

The primary objective is to empower in-service cardiothoracic surgical (CTS) nurses through an KAP-model based educational seminar and enhance their proficiency in postoperative pain management. First, the seminar aims to improve nurses' knowledge on pain pathophysiology, pharmacological and non-pharmacological interventions, and standardized assessment tools. Second, to foster nurses' positive attitudes toward pain management by addressing misconceptions about multimodal analgesia and opioid use, side effects and real clinical scenarios. Third, to promote holistic practices on individualized pain management plans and proactive pain assessment. With more competent nurses, the project aims to reduce pain-related complications, improve functional recovery, and enhance overall healthcare outcomes for CTS patients. The study also seeks to bridge the knowledge-practice gap in pain management, align with Enhanced Recovery After Surgery (ERAS) protocol, and communicate the findings worldwide for elevation in future nursing care standards on pain management and surgical patients' outcomes optimization.

Methods

This pilot study utilized the theoretical model of Knowledge, Attitude, and Practice (KAP) model to enhance postoperative pain management competencies among in-service nurses in our department. Convenience sampling method was used to select

participants including ICU and general ward nurses. The intervention included knowledge-focused lectures, attitude-transformation discussions, and clinical measures introduction. Data collection involved pre- and post-intervention electronic tests and questionnaires, referencing the "Knowledge and Attitudes Survey Regarding Pain" (KASRP) tool. The tests assessed pain-related knowledge, attitudes, and clinical practices using diverse formats (e.g., multiple-choice, Likert scales, scenario-based questions). Continuous variables are presented in mean $\pm$ SD and categorical variables in frequency and percentage. Differences are considered as statistically significant when $p < 0.05$. All data was processed by computer data software SPSS version 29. Paired t-tests were used for difference evaluation, and results were analysed under the category of pain management knowledge, nurse role adaptation and attitude, decision-making, and clinical application.

Results

Of the 12 participants, 45.5% had ≤ 2 years of experience, 63.6% were registered nurses, and 27.3% were advanced practice nurses. Statistically significant improvements with a mean difference of 2.92 ± 2.31 (95% CI,

$1.45-4.39$, $p = 0.001$), pretest scores of mean 5.5 ± 1.88 increased to post-test 8.42 ± 0.1 out of 10, demonstrated substantial competence raise.

Key Findings by KAP Category:

1. Knowledge: Pain-related and pharmacological knowledge improved, with mean differences of 0.67 ± 1.07 ($p < 0.05$) and 1.17 ± 1.03 ($p < 0.05$) respectively. Latter showed an outstanding improvement with large effect (Cohen's d (d) = 1.13), while former showed medium effect ($d = 0.62$) improvement.
2. Attitudes: Findings demonstrated the most positive-rated effects on positive attitude changes and more respectful attitude on pain management, followed by confidence on nursing role in evaluation; test scores on nurses' role interpretation had a medium effect $d = 0.65$ with mean difference 0.33 ± 0.65 ($p > 0.05$), this underscore future study direction on nurse role adoption in resolving practice barriers.
3. Practice: Pain management strategy scores statistically significant improved with mean difference 0.58 ± 0.51 , $p < 0.05$, $d = 0.51$.

Prior to the training, 72.8% of participants reported inadequate pain education in previous institutions. Post-seminar, all participants agreed their knowledge, confidence, and practical skills improved, demonstrating effectiveness on KAP-model-based training.

Conclusion

Nurses have pivotal role in effective postoperative pain management and positive patient experience. The KAP-model-based educational intervention demonstrated statistically significant improvements in nurses' KAP. The study findings also exhibit outstanding performances on positive attitude shifts and confidence on patient-reported pain and understanding on pain control alternatives. Despite the study limitations on generalizability and practical barriers, the findings manifested future training direction changes and significance for continuous professional development. Recommendations on ongoing education are inspired for future sustainable pain management implementation. Workshops with hands-on assessment practice and real-life case studies help nurses internalize knowledge and overcome barriers. Institutionalizing pain management as a core competency in professional development by regular refresher courses and updated seminars is suggested for nurses stay informed on evidence-based strategies, enhancing patient outcomes and aligning with international standards. From the

findings, it demonstrated the importance of knowledge-practice transition and awareness raising with respectful attitude to patient-reported pain and proactive assessment and communication to achieve positive patient experience after intensive operations.

In conclusion, a holistic approach by KAP model on pain management education is statistically proven effective in enhancing nurses' competency. This underscores the important implications for future direction change in pain management education among specialty surgical nurses.

Conflicts of interest related to this abstract: None

P-5018

Engaging Patients and Families in Enhancing the Patient Experience: Application of the VOP (Voice of Patient) Methodology

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Introduction

Listening to patients and families is essential to understanding their experiences with healthcare organizations and facilities. The Voice of Patient (VOP) methodology offers a structured and systematic approach to collecting, analysing, and applying information obtained directly from patients and families. This methodology allows for the identification of experiences, expectations, needs, and preferences, enabling healthcare organizations to develop improvement strategies based on a real and deep understanding of their experience. At Hospital Sant Joan de Déu in Barcelona, we are implementing the VOP methodology within a patient experience-centred management model. This approach enables a structured and continuous evaluation that improves care quality and fosters the active participation of patients in decisions regarding their care. We believe that implementing the VOP humanizes healthcare by basing improvements on the authentic experiences of patients.

Aim/Objective(s)

The overall objective of this project is to implement the VOP methodology to structure and systematize the management of patients and families voices, incorporating this information into the continuous improvement process of our comprehensive care model. This implementation allows us to:

- Collect and identify the key elements that influence the patient experience
- Analyse and structure the collected experiences to detect areas for improvement
- Foster active patient participation and involve them in the improvement process through actions that positively affect their experience
- Share the obtained results to integrate them into improvement processes and ultimately evaluate their impact

Methods

The VOP methodology is implemented in four phases. First, patients are engaged through multiple channels (in-person, telephone, surveys, social media) and qualitative methods (patient councils, interviews, focus groups), including input from hospital professionals and patient associations. Data is then classified as structured (using metrics like Net Promoter Score, Customer Satisfaction Score, Net Emotional Value, and Patient Reported Experience Measures questionnaires) or unstructured (comments, recordings, and open opinions). In the second

phase, the collected data is analysed and categorized to identify trends and assess impacts. In the third phase, the information is shared and dashboards are configured at various levels within the organization, providing a flexible and scalable tool for generating reports and ad-hoc analyses. Finally, the fourth phase involves providing feedback to both patients and professionals regarding the received information and the results integrated into the improvement process.

Results

A patient experience management platform has been developed to support the various phases of the VOP methodology. The platform includes a system of standardized surveys – both transactional and relational – tailored to different areas of the hospital (emergency, outpatient clinics, hospitalization, etc.) as well as ad-hoc questionnaires related to various improvement projects. These surveys are sent at different times to gather opinions, generating both quantitative and qualitative data that can be segmented by various variables related to patient typology and the hospital operational KPIs, and analysed over time. In the past year, more than 50,000 responses have been collected, with surveys implemented in nine care areas and eight devices. Tabulation matrices have been developed to segment and analyse trends, thereby enabling the evaluation of improvements. Additionally, dashboards have been created for monitoring and communicating results. The VOP information has been integrated into 22 patient experience improvement projects and four research projects. Artificial intelligence software processes over 25,000 comments using natural language processing, categorizing them into 40 topics and extracting sentiment indicators. This model is continuously refined using machine learning tools. Furthermore, feedback protocols have been established according to channel and theme to optimize the impact on patients and the organization.

Conclusion

The implementation of the VOP methodology at Hospital Sant Joan de Déu is key to understanding, analysing, and improving the experiences of patients and families, enabling the structured and continuous capture of their needs, expectations, and perceptions throughout their care journey. Incorporating this tool as part of the hospital's comprehensive, person-centred care model – and within a culture focused on patient and family experience – provides the organization with a shared vision of the patient's voice and helps to align and prioritize improvement efforts. The availability of a software platform that supports the information collected through various channels, along with tools for analysis, reporting, and closing the feedback loop, facilitates the management of the patient voice and data accessibility for all professionals, ensuring consistency and coherence of the data. The inclusion of AI tools related to natural language processing, sentiment analysis, and machine learning allows for the integration and analysis of unstructured information and its correlation with other indicators and KPIs. This adds depth to the model by capturing the nuances of the patient's voice as naturally expressed, overcoming the simplification and loss of detail inherent in traditional structured indicators.

Conflicts of interest related to this abstract: None

P-5019

Engaging patients in infection control prevention: translation and validation of a hand hygiene experience questionnaire

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Introduction

Patient-centered care is a fundamental aspect of healthcare quality, and Patient-Reported Experience Measures (PREMs) are valuable tools for assessing it. PREMs capture patients' perceptions of their care experiences, providing essential insights to improve healthcare delivery. Among key quality indicators, PREMs contribute to identifying areas for enhancement, fostering patient engagement, and informing healthcare decisions. Hand hygiene (HH) is a critical measure in preventing Healthcare-Associated Infections (HAIs) and limiting antimicrobial resistance. Despite its simplicity and importance, compliance among healthcare workers remains suboptimal. Studies suggest that patient participation can positively influence HH adherence. In 2022, the *Haute Autorité de Santé* (HAS), from France, launched the development of the *Questionnaire Hygiène des mains perçue par les patients*, a five-question tool designed to assess patient perceptions of healthcare workers' HH practices.

Aim/Objective(s)

This study aimed to perform the cross-cultural adaptation and evaluate the psychometric properties of the Portuguese version of the *Questionnaire Hygiène des mains perçue par les patients* for use in the Portuguese context. The specific objectives included assessing the construct validity, internal consistency, and factor structure of the questionnaire. The study focused on determining the reliability and validity of the instrument to ensure its suitability for evaluating patient perceptions of healthcare workers' hand hygiene practices in Portuguese healthcare settings. The final goal was to provide a valid and reliable tool that can contribute to improving infection control strategies and enhancing patient care by accurately capturing patients' perceptions of healthcare workers' hand hygiene practices in Portuguese health system.

Methods

This cross-sectional observational study was conducted with HAS authorization in two stages. The translation followed international guidelines to ensure semantic and conceptual item equivalence. The five-item questionnaire was administered to a sample of 154 patients in a Portuguese healthcare hospital. A pre-test evaluated operational equivalence and verbal comprehension. Psychometric analysis was performed using JAMOVI. Descriptive statistics and the Shapiro-Wilk test assessed item distribution normality. Pearson's correlation coefficient (r) indicated inter-item associations, while internal consistency was assessed using McDonald's omega (ω). Exploratory and Confirmatory Factor Analysis (CFA) evaluated the instrument's reliability and validity, respectively. Model fit was assessed using the chi-square test (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Statistical significance thresholds were set at $\alpha = 0.05$ ($p < 0.05$), $\alpha = 0.01$ ($p < 0.01$), and $\alpha = 0.001$ ($p < 0.001$).

Results

Descriptive analysis (Table 1) indicated that none of the five items (Q1–Q5, $n = 154$) followed a normal distribution (Shapiro-

Wilk test, $p < 0.001$). However, the Central Limit Theorem supports the use of parametric methods. Pearson's correlation (Table 2) revealed significant inter-item associations, with the strongest observed between Q3 and Q4 ($r = 0.389$, $p < 0.001$). Exploratory Factor Analysis (EFA) identified a four-factor structure explaining 38% of the variance: Factor 1 (Q4, Q5) related to disinfectant use (21.6%), Factor 2 (Q3) to hand hygiene information (8.5%), Factor 3 (Q2) to healthcare workers' accessories (4.8%), and Factor 4 (Q1) to disinfectant availability (3.6%). The significant Bartlett's test ($X^2(10) = 50.014$, $p < 0.01$), and the measure of Kaiser-Meyer-Olkin (KMO) (0.540) indicated moderate sampling adequacy for factor analysis. Composite reliability analysis suggested moderate internal consistency ($\omega = 0.483$). Confirmatory Factor Analysis (CFA) confirmed the four-factor structure, with all factor loadings significant ($p < 0.01$). The model revealed an excellent fit ($X^2(2) = 2.338$, $p = 0.331$, CFI = 0.992, TLI = 0.959, RMSEA = 0.033, SRMR = 0.026). The four factors exhibited discriminant validity, supporting the model's suitability in assessing patient perceptions of healthcare workers' hand hygiene practices.

Table 1 – Descriptive statistics and normality test (N=154)

	Q1	Q2	Q3	Q4	Q5
Mean	1,058	3,253	1,416	2,234	1,565
Standard Deviation	0,235	0,772	0,613	1,015	1,066
Median	1	3	1	2	1
Minimum	1	1	1	1	1
Maximum	2	4	3	4	5
Skewness	3,802	-0,817	1,192	0,428	2,124
Kurtosis	12,618	0,213	0,375	-0,889	3,912
W	0,248	0,794	0,664	0,855	0,585
p	<,001	<,001	<,001	<,001	<,001

Legend: W – Shapiro-Wilk test

Conclusion

This study resulted in the Portuguese version of the *Questionnaire Hygiène des mains perçue par les patients*, designed to evaluate patient perceptions of healthcare workers' hand hygiene practices. The Portuguese version demonstrated a valid and reliable factorial structure. Both EFA and CFA supported a four-factor solution with no significant cross-loadings, confirming structural validity. Fit indices revealed a strong model fit, supporting its applicability in assessing patient perceptions of hand hygiene in healthcare settings. While discriminant validity was confirmed, convergent validity met the minimum threshold only for Factor 2, suggesting the need for item revision, particularly Q2. Reliability measures indicated moderate internal consistency, necessitating further refinements to enhance the instrument's psychometric robustness. These findings support the questionnaire's potential as a valuable tool for evaluating patient experiences and guiding improvements in hand hygiene compliance among healthcare professionals. By assessing patients' perceptions of healthcare workers' hand hygiene practices, this tool can contribute to improving infection prevention strategies and enhancing patient-centered care.

Conflicts of interest related to this abstract: None

P-5020

Enhancing chronic disease therapies through direct asynchronous Patient-Doctor Communication: a Multiple Sclerosis Pilot Program

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Introduction

Multiple sclerosis (MS) is a chronic demyelinating disease of the central nervous system that requires long-term, individualized pharmacotherapy to manage symptoms and slow disease progression. The conventional healthcare model restricts patient-doctor interactions to visits scheduled every three months or longer, creating significant gaps in communication and care. These extended intervals between consultations often lead to patient confusion, fear, and uncertainty about treatment regimens, resulting in decreased adherence and poor clinical outcomes. Without continuous medical guidance, patients may experience delayed interventions and worsening symptoms. To address these challenges, a pilot program was implemented in 5 hospitals, to enhance MS care through a secure medical communication platform Doctor. One that enables direct, asynchronous patient-doctor interactions between visits. This program aims to bridge the communication gap, improve treatment adherence, and provide patients with cost-efficient support between clinical visits.

Aim/Objective(s)

The primary aim of this program was to enhance accessibility, engagement and treatment effectiveness through coordinated asynchronous care for MS patients and neurologists. Specific objectives included increasing patient adherence to treatment, improving health literacy, reducing administrative burdens on healthcare professionals, and assessing the impact of digital communication on patient satisfaction and clinical outcomes. Moreover, the program aims to investigate the influence of digital communication & PROMs collection on patients' as well as physicians' satisfaction, patients' education and clinical outcomes, utilizing patient and physician feedback and clinical data to determine correlations between communication practices and health improvements.

Methods

The pilot program was conducted over six months and involved 173 MS patients and 10 neurologists from five cities in Poland. The platform was used to facilitate asynchronous communication between patients and doctors. Patients were onboarded through an initial consultation, where their medical history, current treatment regimen, and individual needs were assessed. The intervention included bi-weekly virtual rounds, where doctors allocated two 30-minute sessions per week to address patient inquiries and monitor treatment progress. Traditional in-person visits continued quarterly for physical assessments. Patients had continuous access to their neurologists via secure messaging, allowing for medication adjustments, symptom tracking, and prompt responses to emerging concerns. Data collection included tracking the number and type of interactions, response times, treatment modifications, and patient-reported outcomes. Metrics such as message exchange frequency, patient satisfaction surveys, and doctor feedback were analyzed to evaluate the effectiveness of the program.

Results

During the six-month pilot, 98% of patients communicated with their doctors at least once, and 71% maintained regular contact every month. The highest-engaging patient sent 69 messages

over six months, while the median number of messages per patient was 7. The program achieved a high recommendation rate among both doctors and patients, with a Net Promoter Score (NPS) of 95 for patients and 93 for doctors. The quality of care was rated at 9.3/10 by physicians and 9.5/10 by patients. After an initial peak, patients required less educational support but continued utilizing the communication tool effectively. The project results led to the decision to scale it to 50+ hospitals in Poland.

Conclusion

The SM One project demonstrates that structured digital communication significantly enhances multiple sclerosis (MS) management by improving patient adherence, engagement, and physician responsiveness. The Doctor.One platform facilitated frequent micro-interactions, leading to high patient satisfaction and improved understanding of therapy. Physicians reported enhanced treatment monitoring and more effective management of patient needs. Continuous communication in MS care enables a more personalized and responsive approach, bridging gaps in conventional healthcare delivery. These findings suggest that this model could be effectively scaled to other healthcare centers and adapted for broader chronic disease management. By leveraging telemedicine, this initiative aligns with modern healthcare paradigms, offering a scalable, sustainable framework for continuous patient care. Building on these findings, the project is progressing to Phase Two, which integrates nurse-led asynchronous care, introduces a dedicated program coordinator, and expands implementation to 50 hospitals. The overarching objective is to establish digital doctor-patient communication as the standard of care for chronic disease management. This initiative not only addresses critical deficiencies in traditional MS care but also informs potential policy advancements, promoting digital-first healthcare strategies that optimize resource utilization, improve patient outcomes, and set a precedent for the widespread integration of asynchronous, telemedicine into hospital-based care models.

Conflicts of interest related to this abstract: Prof. Jarosław Fedorowski declares no conflicts of interest. Tomasz Rudolf is an employee and owns stock in Doctor One. This organization received a grant from Novartis Poland for the pilot implementation of its asynchronous care model for patients with multiple sclerosis.

P-5021

Enhancing Comfort for Palliative Care Patients: Innovations in Subcutaneous Cannulation for Optimal Medication Delivery.

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Introduction

Subcutaneous cannulation (SC), a critical component of palliative care (PC), significantly improves the quality of life for patients with advanced illnesses. This minimally invasive technique provides effective symptom relief, including pain management and the alleviation of distressing symptoms, while enhancing overall well-being. Additionally, it minimizes discomfort and reduces the risk of complications, such as infections.

SC involves inserting a small, flexible cannula under the skin to deliver medications and fluids, making it highly suitable for palliative care settings. It is especially beneficial for patients with limited venous access or those unable to take oral medications due to nausea, vomiting, or swallowing difficulties. SC supports the administration of various medications, including analgesics, antiemetics, and sedatives, ensuring rapid symptom relief with fewer side effects than intravenous methods. SC offers a reliable, comfortable alternative for medication delivery, upholding

patient dignity, minimizing discomfort, and ensuring effective symptom control in line with palliative care principles.

Aim/Objective(s)

The purpose of SC is to deliver medications to PC patients, ensuring comfortable symptom management while minimizing multiple pricks, reducing trauma and discomfort. This approach is also cost-effective, requiring less time and equipment for enhanced efficiency.

Objective:

1. To achieve full integration of the SC route into RH's PC services by the end of 2025, focusing on improving pain and symptom management, and patient-satisfaction.
2. To establish and operationalize the SC route within existing PC guidelines at RH in Oman by the end of 2025.
3. To monitor and assess pain and symptom control using specific tools, aiming for a 25% improvement within the initial six months of implementation.
4. To regularly survey patient-satisfaction and ensure the operational-effectiveness of SC route, contributing to patient-centered-care in PC setting.
5. To implement a 25% training-program for healthcare-professionals in SC cannulation, addressing logistical requirements for seamless integration by the end of 2025.

Methods

In 2021, there was a significant evolution in SC within palliative care, extending beyond its historical association with morphine infusions. This transformation aimed to diversify medication administration for enhanced-patient-care. The refinement of SC involved specific criteria and guidelines, establishing a structured framework for its judicious application in palliative care. These guidelines outlined parameters for patient selection, suitable medications, dosages, and safety protocols, ensuring a standardized and evidence-based approach. The expanded use of SC signified a shift towards a comprehensive, patient-centric care model, enabling tailored treatment plans for individual needs and improved symptom control. Patient selection was targeted, focusing exclusively on palliative care patients requiring symptom management, ensuring a needs-based approach rather than random selection. The hospital information system, utilizing the Shifa referral list, played a crucial role in efficiently identifying and prioritizing PC patients in need of SC. This approach ensured a systematic and needs-based utilization of SC in PC.

Results

Survey findings underscore significant qualitative and quantitative outcomes related to the implementation of subcutaneous cannulation (SC) in palliative care (PC). Patients, families, and healthcare workers (HCWs) widely express substantial satisfaction, emphasizing SC's effectiveness in providing enhanced comfort through its minimally invasive nature. The flexibility of SC facilitates seamless medication administration, promotes patient autonomy, and supports a comfortable, all under the oversight of a specialized PC team. Quantitatively, patient satisfaction levels stand at 75% highly satisfied, 15% satisfied, 7% neutral, and only 3% dissatisfied. HCWs report an 80% satisfaction rate, highlighting the reduced burden of repeated intravenous cannulation attempts, particularly in patients with challenging venous access. However, 30% of HCWs express neutral to negative responses, citing limitations in SC for specific medications. Despite this, both patients and HCWs recognize SC as a valuable, cost-effective intervention that significantly improves comfort and quality-of-care. From a practical standpoint, HCWs report better patient comfort and extended cannula duration (14 days compared to 3–5 days for IV cannulas). This minimizes the need for repeated vein searches and reduces time-consuming trials, offering both efficiency and ease

for staff. Overall, SC is a key advancement in PC, meeting patient and caregiver needs while providing medication comfortably, sustainably, and cost-effectively.

Conclusion

In conclusion, the integration of SC into PC represents a significant step toward delivering patient-centered care and enhancing the comfort of individuals with life-limiting illnesses. Its minimally invasive approach and adaptability allow healthcare providers to tailor treatment plans to meet each patient's unique needs and preferences. This not only improves patient satisfaction but also upholds their sense of dignity and autonomy, even during advanced stages of illness. SC facilitates precise and continuous medication delivery, ensuring effective pain and symptom management. The sustained release of therapeutic agents maximizes treatment efficacy while minimizing the discomfort associated with more invasive procedures. This approach creates a more peaceful and supportive environment, fostering comfort and ease for patients during their end-of-life journey. By addressing physical, emotional, and psychological needs, SC reflects a holistic commitment to improving the quality of life for patients in palliative care. It ensures that they receive the support necessary to face their final stages with dignity, comfort, and compassion. Overall, the implementation of SC underscores the importance of innovative, empathetic practices in providing high-quality, patient-centered palliative care.

Conflicts of interest related to this abstract: no conflict of interest

P-5022

Enhancing Employee Well-Being in Healthcare: A Comprehensive Study on Psychological Safety and Job Satisfaction in Adventist Hospitals

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Introduction

The broad context of this study is the growing recognition that employee well-being is essential to high-quality healthcare delivery. In the Adventist hospital system in the Philippines, ensuring psychological safety among healthcare workers is crucial in fostering job satisfaction, reducing burnout, and enhancing patient care. Filipino values such as *bayanihan* (communal support), *malasakit* (compassionate care), and *pakikisama* (harmonious relationships) create a unique work environment that enhances resilience and collaboration. Additionally, patient-centered care and culturally responsive strategies play a vital role in improving healthcare outcomes. This study examines these factors in 12 Adventist hospitals, identifying key predictors of psychological safety and job satisfaction while providing evidence-based recommendations to strengthen leadership, workplace culture, and patient engagement. Findings contribute to the broader discussion on how human-centered experiences, faith-based approaches, and cultural inclusivity shape employee well-being and hospital performance in the Filipino healthcare system.

Aim/Objective(s)

This study aims to assess psychological safety and job satisfaction among employees in Adventist hospitals across the Philippines, identifying key demographic and employment factors influencing these constructs. It seeks to establish the correlation between psychological safety and job satisfaction and

explore how human-centered care and cultural sensitivity impact workplace well-being and patient outcomes. Additionally, it examines how unique Filipino values such as *bayanihan* (communal support), *malasakit* (compassionate care), and *pakikisama* (harmonious relationships) contribute to resilience and positive healthcare dynamics. The study provides evidence-based recommendations to enhance leadership effectiveness, workplace culture, and patient-centered care while ensuring an inclusive and supportive hospital environment. By integrating culturally responsive strategies and faith-based well-being support, the research contributes to improving employee retention, job satisfaction, and overall hospital performance, aligning with the broader goal of optimizing both clinical and operational outcomes within the Adventist healthcare system.

Methods

This study employed a mixed-methods approach, combining quantitative survey data with qualitative interviews for a comprehensive analysis.

- **Participants:** A total of 1,898 employees from 12 Adventist hospitals in the Philippines participated. Stratified sampling ensured proportional representation from different departments, tenure groups, and locations. Eligible participants were full-time or part-time employees with at least one year of tenure.
- **Data Collection:** An online cross-sectional survey utilizing validated instruments and semi-structured interviews captured both quantitative and qualitative insights.
- **Tools Employed:** Psychological safety was measured using Edmondson's (1999) 9-item scale (Cronbach's $\alpha = 0.923$), while job satisfaction was assessed with Spector's (1997) 6-item scale (Cronbach's $\alpha = 0.899$). An additional interview protocol examined patient engagement and cultural sensitivity in healthcare delivery.
- **Data Analysis:** Quantitative data was analyzed using descriptive statistics, Pearson correlation, ANOVA, and regression analysis. Thematic analysis of qualitative responses provided insights into cultural sensitivity and patient-centered care.

Results

The study revealed a strong positive correlation ($r = 0.73$, $p < 0.01$) between psychological safety and job satisfaction, highlighting that employees who feel safe to express ideas and learn from mistakes are more satisfied in their roles. The mean psychological safety score was 3.411, while the mean job satisfaction score was 3.414, both in the moderate range. Demographic findings showed that nurses, early-career employees, and non-regular workers reported the lowest levels of psychological safety and job satisfaction. Employees in hospitals that emphasized patient-centered care demonstrated higher job satisfaction, reinforcing the role of human-centered healthcare practices. Cultural sensitivity and Filipino values such as *bayanihan* (community collaboration), *malasakit* (deep concern for others), and *pakikisama* (harmonious relationships) emerged as significant predictors of workplace resilience and teamwork. Employees who identified strongly with these values reported improved morale, greater workplace engagement, and better patient relationships. Regression analysis indicated that leadership support, communication transparency, and recognition programs significantly predicted both psychological safety and job satisfaction. These findings underscore the need for hospital systems to cultivate a culture of support and inclusivity, ensuring that employees feel valued, which ultimately enhances patient care and hospital performance.

Conclusion

This study highlights the essential role of psychological safety and job satisfaction in improving healthcare performance, emphasizing a human-centered and culturally sensitive approach. The findings suggest that fostering psychological safety through transparent communication, leadership support, and recognition programs enhances employee morale, which directly contributes to higher-quality patient care. The incorporation of Filipino values such as *bayanihan*, *malasakit*, and *pakikisama* into workplace policies strengthens teamwork and employee resilience. By leveraging these cultural strengths, hospitals can create more inclusive and compassionate work environments, ultimately leading to better patient engagement and satisfaction. This research contributes to policy development by advocating for leadership training programs that emphasize psychological safety and cultural inclusivity. In practice, hospitals can implement structured mentorship programs and recognition initiatives to boost job satisfaction. Future research should explore longitudinal studies to measure the impact of sustained psychological safety interventions on employee retention and hospital performance. By prioritizing employee well-being, healthcare institutions can improve operational efficiency, enhance clinical outcomes, and ensure a positive patient experience. These findings reinforce the need for an integrated, culturally responsive approach to hospital management, promoting both workforce resilience and exceptional healthcare service delivery.

Conflicts of interest related to this abstract: None

P-5023

Enhancing Patient-Centered Care through Digital Innovation and Engagement: A Scalable Model for Healthcare Transformation

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Introduction

Delivering high-quality healthcare involves more than just medical treatment – it requires a human-centered approach that prioritizes the needs, experiences, and engagement of patients, families, and communities. At Narayana Health, we understand that integrating digital transformation is key to improving healthcare accessibility, efficiency, and inclusivity. By adopting technology-driven innovations alongside culturally sensitive strategies, we ensure that our care delivery is not only effective but also compassionate, meeting the diverse needs of our patients. Through the implementation of digital tools, we empower patients and families by offering seamless access to healthcare services, real-time information, and personalized care options. These advancements improve patient satisfaction, streamline clinical and operational workflows, and foster trust within the community. By adopting a holistic engagement model, we aim to build a sustainable healthcare ecosystem that supports individual well-being, enhances care delivery, and drives positive health outcomes across the populations we serve.

Aim/Objective(s)

This initiative aims to enhance patient-centered care at Narayana Health by:

- Actively involving patients in the co-creation of care delivery models, ensuring their needs and preferences shape treatment pathways.
- Encouraging active patient participation in decision-making, fostering a collaborative relationship between patients, families, and healthcare providers.

- Assessing the role of digital technology in improving both patient care and broader community health outcomes, ensuring the integration of innovative tools that support patients' well-being.
- Implementing culturally responsive strategies to increase healthcare accessibility and adherence, ensuring diverse populations receive equitable care.
- Strengthening the link between patient experience and clinical, operational efficiencies by refining processes that improve both service delivery and patient satisfaction.
- Improving clinical and operational efficiencies through enhanced patient experiences, ensuring timely, quality care with minimal waiting times.

Through these efforts, Narayana Health aims to create a personalized, inclusive healthcare system that promotes better health outcomes.

Methods

A blended digital and process re-engineering approach enhanced patient-centered care, accessibility, and operational efficiency. Participants included patients and healthcare professionals across our facilities.

Data Collection & Sampling:

- Patient experience was assessed via a unified complaint management system, integrating feedback from digital platforms, emails, social media, and call centers. Sentiment analysis provided structured insights.
- Service efficiency was measured through real-time Key Performance Indicators (KPIs), using benchmarks from patient behavior and turnaround time (TAT) data.

Tools Employed:

- Salesforce collected and analyzed patient feedback.
- Digital solutions (NH Care App, AADI App, kiosks, queue management systems) optimized appointments, billing, and health record access.
- AIRO Dashboard (BI & AI-powered) tracked 115 major and 180 dependent KPIs, identifying operational gaps.

Data Analysis:

- AI-driven AIRO's BI & dashboard, enabled continuous performance monitoring.
- This enabled faster, more transparent, and higher-quality care, leading to better patient satisfaction and health outcomes.

This approach transformed healthcare delivery, enhancing patient experience and hospital efficiency.

Results

- Our patient engagement initiatives led to a significant increase in Net Promoter Score (NPS), with OPD NPS rising from 53% to 66% and IPD NPS from 62% to 74% (FY 23–25), alongside improved adherence to treatment plans.
- The adoption of digital technologies, including online appointment systems, kiosks, and doctor queue management, enhanced accessibility and predictability, increasing the percentage of predictability of patients consulted within 30 minutes from 71% to 81%. The AIRO-based real-time streaming dashboard for labs, OPD, and discharges enabled continuous monitoring, reducing long wait times.
- Digital tools such as PHR, kiosks, and the NH Care app boosted patient online transactions from 43% to 60% (FY 24–25), improving convenience and engagement.
- Culturally tailored interventions enhanced community participation and patient understanding of treatment plans, resulting in improved adherence across diverse demographics.
- Leveraging AIRO's BI & AI dashboard, we identified key opportunities to optimize 17 processes and monitor 115 major

and 180 dependent KPIs across visible platforms. This enabled faster, more transparent, and higher-quality care, leading to better patient satisfaction and health outcomes.

Overall, these strategies significantly improved patient-centered care and operational efficiency at Narayana Health, offering a scalable model for healthcare transformation.

Conclusion

Narayana Health's patient-centered approach has significantly improved healthcare accessibility, experiences, and outcomes. By integrating digital solutions, patient engagement, and culturally inclusive strategies, we have established an efficient, compassionate, and inclusive model of care. Strengthening the link between operational performance and patient-centered care fosters trust, enhances clinical efficiency, and empowers patients in managing their health. Digital innovations streamline accessibility and ensure continuity of care, providing seamless experiences for patients and their families. Culturally tailored interventions improve adherence and inclusivity, particularly in diverse populations. These efforts not only enhance individual patient experiences but also contribute to a more sustainable and scalable healthcare model. By reinforcing a positive patient experience, this approach serves as a blueprint for transforming healthcare delivery. It offers valuable insights for policymakers, practitioners, and researchers seeking to improve service quality, equity, and efficiency. The integration of patient-centered strategies into policy and practice can drive continuous improvements, shaping a healthcare system that is both innovative and responsive to evolving needs.

Conflicts of interest related to this abstract: None

P-5024

Enhancing patient-centered care through engagement, digital transformation, and cultural sensitivity at Khorfakkan Hospital

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Introduction

Khorfakkan Hospital is committed to delivering patient-centered healthcare by integrating direct patient engagement, digital advancements, and culturally sensitive strategies. Aligning with the UAE Government Charter for Future Services, our approach emphasizes efficiency and patient satisfaction. We recognize that healthcare services must be shaped by patient needs and experiences, ensuring continuous improvements in both clinical outcomes and service delivery. The hospital's focus on digital transformation has streamlined medical report issuance and patient interactions. Meanwhile, our culturally inclusive initiatives, such as elderly-friendly and mother-and-baby-friendly services, reinforce our dedication to personalized care. This project highlights how patient councils, technology integration, and operational improvements enhance healthcare services.

Aim/Objective(s)

The primary objective of this project is to enhance healthcare service delivery at Khorfakkan Hospital by integrating patient feedback, digital innovations, and culturally sensitive care strategies. We aim to:

Improve healthcare outcomes through active patient engagement and feedback-driven service redesign.

Leverage digital tools to enhance accessibility, efficiency, and patient experience.

Implement culturally tailored healthcare strategies to address the diverse needs of our community.

Streamline operational processes to reduce patient burden and improve service delivery efficiency.

Methods

A patient-centered methodology was adopted, involving 12 customer councils in 2024 that provided direct feedback on healthcare services. Qualitative and quantitative data were collected through patient surveys, focus group discussions, and digital platforms such as PaCE dashboard, Q-Matic System and Wareed System(EHRs). Digital transformation initiatives were assessed based on efficiency improvements in medical report issuance and patient interactions. Cultural sensitivity strategies were evaluated by monitoring patient satisfaction and engagement levels. Key interventions included: redesigning physiotherapy departments based on feedback, streamlining diabetic patient care (reducing appointments from five to one), and launching specialized services such as the Barakat Aldar Reception for elderly patients and a Down syndrome clinic for pediatric patients. Data analysis involved comparing pre- and post-implementation service metrics to assess impact.

Results

Our patient-centered approach has led to significant improvements in care delivery, guided by patient engagement, digital transformation, and cultural sensitivity. Through 12 Customer councils, direct feedback has driven meaningful changes, including the redesign of the physiotherapy department to enhance patient outcomes. Additionally, our digital transformation initiatives, such as electronic medical reports, have improved efficiency and accessibility. Cultural inclusivity remains a priority, reflected in our Baby and Mother Friendly and Elderly Friendly Hospital designations. We have introduced services like the Barakat Aldar Reception for elderly patients, eliminating wait times, and a specialized pediatric Down syndrome clinic, operating monthly for 10 patients. Our diabetic care process has also been streamlined, reducing the number of required appointments from five to one. These initiatives demonstrate our commitment to improving healthcare outcomes while maintaining operational efficiency. By integrating patient insights, digital tools, and culturally sensitive care, Khorfakkan Hospital continues to elevate healthcare standards and enhance community well-being.

Conclusion

This initiative has demonstrated the effectiveness of integrating patient engagement, technology, and cultural sensitivity into healthcare service improvement. By leveraging patient feedback, we have enhanced operational efficiency, improved clinical outcomes, and fostered a more inclusive healthcare environment. Our digital transformation efforts have streamlined administrative processes, increasing accessibility and accuracy in medical reporting. The culturally tailored care strategies have ensured that services remain responsive to the needs of diverse patient groups. These efforts contribute to health service improvement by setting new benchmarks in patient-centered care, reinforcing the importance of human-centered service design in hospital settings. This model can be replicated across healthcare institutions, providing a framework for future innovations in policy, practice, and patient care strategies. Through continuous refinement and patient collaboration, Khorfakkan Hospital is shaping a more efficient, inclusive, and impactful healthcare system.

Conflicts of interest related to this abstract: None

P-5025

Enhancing Surgical Safety: Implementing Root Cause Analysis in Thoracoscopic Surgery

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Introduction

Surgical site errors, particularly Wrong-Site Surgery (WSS), represent a significant challenge in global healthcare safety. The World Health Organization (WHO) has classified these incidents as preventable adverse events. Despite the widespread implementation of the Universal Protocol for surgical patient safety, studies, including those by Stahel et al. (2010), indicate that surgical marking errors still occur, highlighting gaps within current protocols. This research investigates a specific incident of surgical site marking error during a thoracoscopic procedure, utilizing RCA to identify critical factors contributing to the error and proposing improvement strategies aimed at enhancing surgical safety and patient protection.

Aim/Objective(s)

The primary aims of this research are to:

1. Identify the root causes of surgical site marking errors, encompassing human factors, process management, and team communication.
2. Assess the deficiencies in existing surgical marking processes and pinpoint potential risk areas.
3. Develop actionable improvement strategies using the RCA model to enhance the marking mechanism and collaboration among healthcare teams, thereby reducing error rates.

Methods

This study employs Root Cause Analysis (RCA) to thoroughly investigate the thoracoscopic surgical site marking error incident within a regional teaching hospital in Southern Taiwan. The research methodology includes:

1. Event Retrospective and Time Series Analysis: Reconstructing the critical moments leading up to the error to ensure accurate analysis.
2. Fishbone Diagram Analysis (Ishikawa Diagram): Identifying factors influencing surgical marking errors, including communication within the surgical team, preoperative preparation processes, and execution and verification of surgical marking.
3. Why Tree Analysis: Dissecting the underlying causes of the error to determine appropriate corrective actions.
4. Strategy Formulation and Improvement Actions: Based on RCA findings, integrating WHO safety surgical guidelines and TeamSTEPPS communication strategies to create a revised action plan for clinical implementation.

Results

1. Key Error Sources:

- Incomplete Information Transfer: During preoperative marking, the resident physician failed to notify the attending surgeon, resulting in marking errors that were not promptly corrected.
- Lack of Double-Verification Mechanism: Preoperative rounds did not include cross-verification of markings, increasing the risk of errors.
- Poor Team Communication: Gaps in verbal handover led to inconsistent standards.

2. Improvement Measures and Strategies:

- Standardized Surgical Marking Protocol: Revision of marking guidelines to mandate that attending surgeons personally confirm markings, with secondary verification during rounds.
- Implementation of TeamSTEPPS Communication Tools: Establishing standardized reporting and verification processes to ensure consistent information among the surgical team.
- Digital Surgical Site Marking: Integration of electronic health records with marking information to minimize human error.

Conclusion

RCA serves as an effective tool for reducing surgical marking errors by systematically analyzing error mechanisms and providing concrete improvement measures. Surgical teams should adopt TeamSTEPPS to enhance communication strategies, ensuring consistent critical information and mitigating the risk of surgical errors. The implementation of digital marking systems and the integration of electronic health records can establish an intelligent marking management system, significantly reducing error rates and enhancing the culture of patient safety. The results of this research can guide other healthcare institutions, advocating for broader adoption of standardized marking protocols and the cultivation of a patient safety culture, ensuring high reliability throughout the surgical process.

Conflicts of interest related to this abstract: NONE

P-5026

Enhancing the willingness of chronic disease patients and their families to participate in early treatment decisions

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Introduction

This study explores ways to enhance the willingness of chronic disease patients and their families to participate in early treatment decision-making, aiming to reduce the burden of disease progression on families and the healthcare system while improving the quality of care at our hospital. To achieve this, we integrate the Shared Decision-Making (SDM) initiative promoted by Taiwan's Ministry of Health and Welfare, a patient-centered clinical process that incorporates knowledge, communication, and respect. SDM ensures that healthcare professionals and patients utilize evidence-based medical information alongside the patient's personal preferences and values to consider all available options. Through collaborative decision-making, patients and clinicians can establish a treatment plan early, facilitating timely intervention and reducing both family and healthcare burdens.

Aim/Objective(s)

Patients with chronic diseases often face multiple health conditions. If the risk of deterioration can be identified in the early stages, patients and their families can be guided to consider treatment options. As the disease progresses toward the terminal stage, the pain caused by subsequent treatments can also be alleviated with the support of the healthcare team. This study aims to promote the early participation of chronic disease patients and their families in treatment decision-making through shared decision-making (SDM), enabling them to become medical partners as early as possible. It emphasizes the importance of SDM, with the goal of enhancing public awareness and attitudes toward shared decision-making and improving the relationship between healthcare services and patients.

Methods

A structured questionnaire was used in 2023 to randomly sample 42 stage 3 chronic kidney disease (CKD) patients and 31 type 2 diabetes patients and their families who had been diagnosed for over a year. The action strategies for implementing SDM to enhance early decision-making willingness among the public include: 1. Establishing a hospital-wide execution process for early intervention and shared decision-making (SDM) in chronic disease management; 2. Incorporating SDM into the hospital's patient-centered care policy to strengthen institutional support; 3. Initiating individualized decision-making guidance for patients and their families as early as possible after admission to enhance their willingness to participate in treatment decisions; 4. Following up on decision-making outcomes within one week after guidance; 5. Continuously monitoring and providing care for patients after decision-making, ensuring ongoing support until discharge.

Results

Our hospital's implementation of Shared Decision-Making (SDM) has influenced the early participation of patients and their families in medical decisions. According to questionnaire analysis results, among the 73 surveyed patients and family members: 81.5% of patients agreed that SDM helps them understand changes in their condition; 81.5% believed that a structured SDM process helps them and their families prepare for managing their disease; 83.6% reported that SDM enabled them to clearly understand available treatment options; 84.3% expressed willingness to discuss treatment options with healthcare professionals and proactively ask questions. In terms of the patient-provider relationship, 87.7% of patients trusted that the healthcare professionals guiding their decisions would adopt the most suitable treatment approach and collaborate with them and their families to make the best medical decisions. These findings demonstrate that promoting SDM not only enhances the willingness of chronic disease patients and their families to participate in early treatment decisions but also strengthens the relationship between patients and healthcare providers. By fostering better communication and shared understanding, SDM helps facilitate smoother treatment processes, ultimately improving patient outcomes and the overall quality of healthcare services.

Conclusion

The implementation of Shared Decision-Making (SDM) can significantly enhance the willingness of chronic disease patients and their families to participate in early treatment decision-making. By engaging patients and their families in the decision-making process at an earlier stage, SDM helps them better understand their condition, explore available treatment options, and make informed choices that align with their values and preferences. This proactive approach not only reduces the physical and emotional distress associated with late-stage treatments but also fosters a more trusting and collaborative relationship between healthcare providers and patients. Furthermore, promoting SDM strengthens the foundation for early intervention in chronic disease management, reinforcing health literacy and awareness among the public. By integrating SDM into public health policies, it contributes to a more patient-centered healthcare system, ensuring that individuals receive timely, appropriate care while alleviating the overall burden on families and medical institutions.

Conflicts of interest related to this abstract: None

P-5027

Evaluation of Healthcare Provider Network (HCPN)-Online Referral System of a Government Hospital in the Province of Bataan

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Introduction

The Healthcare Provider Network (HCPN)- Online Referral System, launched in 2018, serves as a pioneering, web-based solution in Central Luzon, Philippines, designed to streamline patient referrals across different healthcare levels, from rural health units to tertiary care.

Aim/Objective(s)

This system aims to enhance healthcare accessibility, improve workflow efficiency, and strengthen patient safety through evidence-based practices and data integration. Evaluating its impact on the core areas of the healthcare delivery system, accessibility, user experience, safety, effectiveness, and service delivery will provide insights for future improvements and potential wider implementation across the health sector.

Methods

This descriptive quantitative study gathered data through survey questionnaires distributed to healthcare providers involved in the HCPN referral process, including physicians, nurses, and encoders, all of whom had direct experience with the system. Statistical analysis was applied to assess system accessibility, user experience, safety, effectiveness, and service delivery, and to identify significant differences based on demographic factors.

Results

The results demonstrate that the HCPN-Online Referral System significantly improves healthcare delivery by enhancing accessibility, user experience, safety, effectiveness, and service delivery. Through round-the-clock availability and streamlined referral processes, patients benefit from timely and efficient access to necessary healthcare services, especially in emergencies. Additionally, the integration of evidence-based practices and optimized resource management has strengthened patient safety, increased satisfaction, and reduced burden on tertiary facilities, however, partial accessibility in remote areas suggests areas for further enhancement.

Conclusion

The HCPN-Online Referral System has proven essential in elevating healthcare delivery standards, providing timely, accessible, and safer patient care while optimizing resources and enhancing overall service quality within the network, though accessibility improvements in remote areas may further optimize system performance.

Conflicts of interest related to this abstract: None

P-5028

From DEI concept to DEI practice: Effectively Integrating Diversity, Equity, and Inclusion (DEI) into hospitals' existing practices

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Introduction

There is growing awareness of the importance of diversity, equity, and inclusion (DEI) in healthcare and its direct impact on clinical outcomes. Unconscious bias within healthcare systems can delay diagnoses, hinder communication between healthcare professionals (HCPs) and patients, and affect patient adherence to treatment. Recognizing this, hospitals are increasingly designating teams to address DEI. This is particularly relevant in cases like ours, where adherence to local regulations and policies on equal access to healthcare is mandatory. With this proposal, we share our experience at Fundación Cardioinfantil (FCI) in Colombia to argue that hospitals are already addressing DEI, at least in part. While there may not be a dedicated, formalized DEI group, DEI can be embedded in a hospital's processes and best practices – particularly in those belonging to Customer Experience (CX). The patient-centric care models promoted by CX require a holistic understanding of patients and can thus overlap with DEI initiatives.

Aim/Objective(s)

To gather and standardize FCI's processes, protocols, documents, and best practices related to DEI that clinical and administrative areas are already implementing. This in order to centralize all DEI-related matters within a cross-functional DEI team that will be responsible for managing incoming regulatory requirements from authorities and accreditation bodies. This team will also receive training to become experts in DEI within healthcare and thus provide support to areas. Achieving this objective requires close collaboration with the CX team, which is perhaps the most advanced in terms of DEI, as this is a topic inherently embedded in patient-centered care models. Additionally, it involves identifying best practices that are not yet documented in our quality assurance platform, but that effectively apply DEI principles in practice (nurses, social workers, volunteers, etc.).

Our objective also promotes operational efficiency, by focusing on standardizing current DEI practices, rather than approaching DEI from scratch.

Methods

The first step to achieve this objective was to designate an interdisciplinary team representing areas related to DEI. Our team includes not only CX but also social workers, nurses, HCPs, and Legal, Human Resources, and Social Responsibility teams. Second, conduct a comprehensive assessment of the institution in terms of DEI. This involves the challenging task of gathering all relevant processes, protocols, documents, and best practices that different areas currently possess and exercise. It is also essential to compile all regulatory requirements to ensure the institution understands its DEI obligations. Third, use the assessment to develop a set of guidelines that all areas can refer to when addressing DEI. These guidelines should be presented in a way that aligns with the institution's mission and values, making them actionable rather than conceptual. Finally, it is essential to internally communicate the existence of the DEI team to prevent further siloed work.

Results

Having only conducted the assessment stage, and not yet the DEI guidelines, there are preliminary results worth sharing for

hospitals interested in effectively applying DEI in their institutions. Regarding CX, we identified that this team already incorporates DEI in its patient-centric care model. This model is permanently socialized with medical departments, to promote holistic evaluations where personal and cultural contexts are considered. DEI is also reflected in key CX initiatives, such as the end-of-life care program, which ensures personalized support for patients, and the patient participation program. It is also important to highlight areas beyond CX that played a significant role in our assessment. Within medical departments, we found that mental health professionals (psychiatrists and psychologists) are now required by regulatory authorities to incorporate a "differential approach" in diagnosing and treating mental illnesses (considering if the patient belongs to a historically marginalized groups). Our legal team, which monitors regulations issued by healthcare authorities, has identified two key mandates directed at all healthcare system actors: one requiring a gender-based approach to improve conditions for both patients and healthcare workers, and another mandating an ethnic-based approach for patients from Afro-Colombian and Raizal communities.

Conclusion

Our contribution is to demonstrate DEI can be effectively integrated with a hospital's existing workflows. Hospital staff are constantly managing an overwhelming amount of updated information; to prevent DEI from becoming an additional burden, it is crucial to frame it not as a completely new initiative but as a way to centralize, standardize, and formalize practices that are already taking place in a fragmented manner. Another key lesson has been the importance of establishing and communicating the role of a dedicated DEI team. When hospitals lack a central team guiding these efforts, individual departments often tackle DEI independently, leading to double efforts and inconsistencies. Providing clear DEI guidelines and training ensures that staff know where to turn for support. Additionally, it is critical to remove the political connotation often associated with DEI. Positioning it as something that improves clinical outcomes helps shift the focus toward its tangible benefits in patient care. Finally, having a dedicated, interdisciplinary, and cross-functional DEI team is essential. This team should not only be well-versed in DEI principles, but also continuously trained in healthcare-specific applications.

Conflicts of interest related to this abstract: None

P-5030

"HeartBeat AI: A Hackathon for Transformative Cardiac Care and AI"

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Introduction

The initiative to organize a Hackathon for AI use in pediatric cardiac care by the Onassis Hospital supported by the Onassis Foundation Scholars' Association, focuses on exploring and understanding the challenges faced by health professionals in relevance to the follow-up care of these patients, targeting to the improvement to the provided care, as well as the needs of patients and their families after cardiac surgery. Interventional cardiology and cardiac surgery have found solutions for even the most complex congenital heart defects with an overall low perioperative mortality. Systematic clinical follow-up of postoperative patients with congenital heart disease is fundamental

not only to prevent complications and/or to treat potential residuals and sequelae, but also to modify future surgical strategies based on long-term results. Implementing a digital remote monitoring tool can support monitoring of patients along with more effective real-time health education and improve compliance, which positively affects postoperative recovery.

Aim/Objective(s)

Main objective of the Hackathon was to conceptualize a digital tool that will make this process more efficient and smooth, enhancing the quality of care received by patients and engage patients as partners in improving care delivery and assist them with the whole funnel from the pre-operation stress until late stages of life. This requires a deep understanding of the needs of patients and health professionals at the Onassis Hospital and a dynamic and imaginative solution through a technological product. This initiative reflects the dedication to lifelong learning and the implementation of practical solutions to address real challenges, thus strengthening our impact and contribution to society. The proposed action is expected to have multiple positive impacts both on the provision of health services of the Greek National Health Service, on the lives of patients and on the community of technologists and the innovation ecosystem of our country.

Methods

Hackathons are a type of Open Innovation Tools that are used as an alternative way to conduct innovation processes within and outside educational institutional boundaries. They are widely used as a tool for innovating new solutions. The knowledge and experience from the follow-up of pediatric cardiac surgery patients was assessed through a questionnaire provided to a convenience sample of parents of patients who had undergone surgery for congenital heart disease in the OH. Their answers were the basis for conducting focus groups in order to qualitatively analyze in depth the results of the study. The term hackathon is a combination of the words "hack" and "marathon", where people with different professional backgrounds work in teams within a set time frame, usually ranging from a few hours to few days, to complete projects with creative solutions or prototypes. Participants ideate, collaborate, and present a solution to a problem or develop innovative projects.

Results

The Hackathon revealed the need for more information and better management of the follow up care from the parents and young patients perspective. Adult patients and parents of young patients stated that with their participation felt engaged as partners in improving care delivery and that a digital follow up application would have a great impact on their follow up care. The mixed group of patients, parents, clinicians and experts provided the opportunity to capture the different dimensions and potential uses of such an application. Its main features should include a user-friendly format, data security, access to clinical data and interoperability. Users suggest that should enable them to schedule their appointments, search for information, access test results, as well as the ability to directly communicate with a clinical specialist in case of an emergency. The focus groups indicated the need to integrate educational audiovisual material related to the immediate needs of patients and parents for the postoperative care after discharge. The possibility of live chat or remote connection in case of emergency was also discussed. Finally, technical, legal and ethical limitations of the application were stressed. The app is expected to enhance the therapeutic relationship and communication with OH patients.

Conclusion

From the analysis of the results of the study, it emerged that the participants consider the implementation of a digital systematic

monitoring application as a helpful tool. They capture a series of features that aim at better monitoring planning, easy access to information and improving the Quality of Care provided with important features that are important for the patients themselves and their parents. It further strengthens the therapeutic relationship of patients with health professionals. While the hospital itself seems to be interested in investing further in the relationship with its patients.

Conflicts of interest related to this abstract: None

P-5031

Humanizing hospital care: the impact of music and pet therapy on patient well-being

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Introduction

Humanizing care is a fundamental principle of the AUSL of Piacenza, aiming to make the hospital a more welcoming place that addresses not only clinical needs but also the emotional well-being of patients. We care for the individual as a whole, we are not here just to treat a disease. In this context, two significant initiatives have been introduced: animal-assisted activity, which started in the Department of Rehabilitation Medicine in Fiorenzuola and was later introduced to Neurology in Piacenza to promote rehabilitation through bonding with dogs and cats; and "Stelle Sonanti," a series of concerts held in care facilities that use music as a therapeutic tool for patients, families, and professionals. These projects complement structural improvements in facilities and volunteer involvement, creating a person-center care model where the human aspect of treatment is an integral part of the therapeutic journey.

Aim/Objective(s)

The main goal of these initiatives is to improve the hospital experience by integrating innovative practices that humanize care, promoting the psychological, emotional, and social well-being of patients. The projects aim to:

- Reduce stress and anxiety associated with hospitalization by offering moments of relief and comfort through positive sensory and emotional experiences.
- Support physical and mental recovery by encouraging active patient participation, enhancing mood, and promoting socialization.
- Create a more welcoming hospital environment by improving spaces and activities, making the hospital less impersonal and more attuned to patients' needs.
- Actively involve patients, families, and healthcare professionals, strengthening the caregiver relationship and fostering a holistic approach to health.

Animal-assisted Activity supports rehabilitation through bonding with dogs and cats, while Stelle Sonanti brings music into care settings, transforming the hospital into a space of shared humanity and well-being.

Methods

The humanization projects, Animal-Assisted Activity and Stelle Sonanti, follow an evidence-based approach, integrating multidisciplinary methodologies to assess their impact on patients. Animal-Assisted Activity, active for over a year in the Depart-

ment of Rehabilitation Medicine in Fiorenzuola and recently introduced to Neurology in Piacenza, is part of a single-center quantitative observational study. The project includes:

- Evaluation indicators, collecting clinical and emotional data;
- Operational guidelines to standardize intervention methods;
- Patient information to ensure transparency and consent;
- Data reporting system, analyzing results with validated scales, such as the Emotion Thermometer, HADS, and NRS scales.

Stelle Sonanti organizes concerts in care settings to enhance the emotional well-being of patients, families, and professionals. Scientific evidence confirms that music reduces stress and anxiety, improves mood, and fosters emotional connection, with feedback collected to assess its effectiveness.

Results

Pet Therapy, with the specialized association *La Collina dei Ciuchini*, involved over 80 patients from the Rehabilitation Medicine Department in Fiorenzuola, with biweekly sessions over the course of a year. The observational study showed improvements in psychological and neurobehavioral disorders (pre/post comparison with a significant decrease in NRS across all populations, p -value = 0.000), as well as a positive trend in anxiety and depression (HADS scale) among patients with spinal cord injuries. Patients with spinal cord and brain injuries reported increased motivation for therapy and improved socialization. In Piacenza's Neurology Department, initial results have been very encouraging. In addition to patients, healthcare staff have also been directly involved, and the initiative has contributed to improving the internal atmosphere of the department.

The Stelle Sonanti project, started in January 2025, was promoted by the association Amici della Lirica, receiving enthusiastic feedback from patients, families, and healthcare professionals. In the days following the concerts, numerous messages, testimonials, and expressions of gratitude were received. Participants reported a greater sense of well-being and a reduction in emotional stress during hospitalization. Both projects demonstrate that humanizing care has a measurable impact on psychophysical well-being, making the hospital a more welcoming environment.

Conclusion

Humanizing care is an essential element in improving healthcare quality, creating an environment that supports not only physical recovery but also psychological and emotional well-being.

The Animal-Assisted Activity and Stelle Sonanti projects, along with structural interventions in pediatric waiting rooms, ENT, Ophthalmology, Laboratory Analysis, and Mammography centers, demonstrate how non-pharmacological approaches can complement clinical practice, enhancing the hospital experience for patients, families, and healthcare professionals. Preliminary results show tangible benefits: reduced stress and anxiety, increased therapy motivation, and improved staff-patient interactions. Additionally, staff involvement has fostered a more serene ward atmosphere, positively impacting care effectiveness. Animal-Assisted Activity is currently the subject of research in collaboration with the University of Parma to further validate its beneficial effects. These initiatives represent a replicable model with innovative, evidence-based approaches, contributing to a cultural transformation – placing the patient at the center of the care pathway and promoting a more welcoming hospital that is sensitive to individual needs.

Conflicts of interest related to this abstract: None

P-5032

Impact of a smartphone application on medical knowledge and medication adherence in patients with heart failure: a randomized clinical trial

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Introduction

Heart failure (HF) is a prevalent chronic condition requiring effective patient education and medication adherence. We developed CardioMeds, a mobile application offering educational content, quizzes, medication lists with reminders, and self-monitoring tools for weight and vital signs. A recently published usability study from our group rated CardioMeds as good to excellent.

Aim/Objective(s)

The present trial evaluated its impact on HF knowledge and therapeutic adherence in patients with reduced or mildly reduced ejection fraction.

Methods

Ambulatory HF patients recruited from the outpatient clinic and cardiac rehabilitation program at the Geneva University Hospitals were randomized to a 30-day intervention using CardioMeds or usual care (control). All participants completed baseline and 30-day questionnaires assessing HF knowledge (Dutch Heart Failure Knowledge Scale, DHFKS), therapeutic adherence (Basel Assessment of Adherence to Immunosuppressives Scale, BAASIS), and usability.

Results

Forty-nine patients (78% male, mean age 67 ± 11.4 years) participated (25 intervention, 24 control). HF knowledge scores significantly improved in the intervention group (+1.28 points, $p = 0.01$) but not in the control group (−0.13 point, $p = 0.66$), with a statistically significant between-group difference ($p = 0.013$). Medication adherence showed no significant group differences: the "initiation" score remained 100% in the intervention group but dropped to 80% in controls. "Implementation" defects increased in the intervention group (36% to 48%) but declined in controls (54% to 52%). Usability findings indicated 64% of the intervention group would continue using CardioMeds.

Conclusion

CardioMeds significantly improved HF knowledge but had no clear impact on medication adherence, likely due to the short study duration and small sample size. The app was well-received and supported daily disease management. In the long term, broader integration of this technology could facilitate the transition from hospital to community by assisting patients in managing their condition and treatment post-hospitalization. An institutional approach incorporating CardioMeds into care pathways could help optimize post-hospital follow-up and reduce readmissions. Multicenter studies are needed to confirm these benefits and explore its role in continuity of care.

Conflicts of interest related to this abstract: None

P-5033

Improve patient satisfaction in the Emergency Department

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Introduction

Patient experience is a crucial indicator in the provision of care in the Emergency Department (ED). Patient satisfaction rate is the objective form of patient's hospital experiences. This makes it one of the defining factor in the delivery of healthcare, through meeting or exceeding patient's needs and expectations. The ED plays a crucial part in the satisfaction of patients as they are the first "customer touch point", having the ability to shape a patient's first impression as they navigate the healthcare system. After learning of the patient satisfaction rate for the last quarter of 2023 conducted by a third party organization (Press-Ganey), the Patient Experience Department coordinated with relevant stakeholders to conduct this project. It aims to improve the rate of patient satisfaction in the ED to 80% from the previous 71.88%. Implementation of recommended action plans and evaluation were all documented.

Aim/Objective(s)

The receipt of the patient satisfaction rate for the last quarter of 2023 by the Press-Ganey prompted the Patient Experience to start this improvement project with the following objectives:

1. Improve the rate of patient experience in the ED: Enhance patient experience and amenity by addressing the lowest mean score from each domain. Improve the rate of patient satisfaction in ED to 80% from 71.88%.
2. Improve healthcare approach in the provision of patient care.
3. Enhance staff competence and communication skills: Downplay errors and warranting factual and accurate information conveyed.

Methods

The FOCUS-PDCA methodology was used and implementation period of three months. The team consisted of staff from the emergency department, allied services, administrative leaders and facility management department. The Press-Ganey conducts survey containing standard questions in six domains. Domains included are Arrival, Nurses, Physicians, Tests, Pharmacy, and Personal Issues. The team has agreed that the lowest mean score from each domain be used as data for the improvement plan. The current process was analyzed from which the gaps in the system were found. From it, recommendations and action plans drafted for implementation. Continuous monitoring was done during the course of the project implementation to evaluate the effectiveness of the action plans with reviews and adjustments made as necessary.

Results

Our project has substantially improved the following quarters patient satisfaction rates, from 71.88% to 89.55% in the first quarter of 2024 and 93.42% in the second quarter. These rates has exceeded the initial goal of the project, which was 80%. Fundamental factors to the success of the project included the enhancement of administrative issues such as addressing staffing and infrastructure challenges including the ongoing construction of Urgent Care Center (UCC) in the ED. The promotion of public awareness on utilization of the ED and telemedicine, training and education for both staff and patients, and continuous evaluation. This significant jump in the rate indicated improvement in administrative processes, staff competency, and the promotion of public awareness and participation.

Conclusion

The lessons gained throughout the project has been identified and acknowledged such as the importance of upgrading professional knowledge and skills, both soft and hard skills, as well as the enhancement of multidisciplinary communication and coordination. All these fosters a culture of patient safety and thus continuous positive patient satisfaction. Actions done such as emphasizing on the compliance with underutilized hospital approved clinical practice guidelines has unified patient management, streamlined workflow and communication has proven to improve patient outcomes and in turn improved patient satisfaction. Furthermore, staff education and training that has greatly improved healthcare staff competency in clinical as well as communication skills has enhanced the quality of care provided. With the positive results, the implemented actions are all recommended to continue to maintain the desired outcome. All these efforts weighs heavily to achieving the goal of promoting safety and satisfaction to the patients of Shaqra General Hospital.

Conflicts of interest related to this abstract: None

P-5034

Improving HCAHPS Score in Admitted Patients by Improving Physician Communication

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Introduction

HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) is a 29-item standardized publicly reported survey instrument designed to assess and report patient's perception of their healthcare experience. It includes 10 key domains to represent different aspects of healthcare experience, communication with doctors being one of the domains. We designed this quality improvement (QI) project to address the critical need to improve physician communication in healthcare to improve patient outcomes.

Aim/Objective(s)

The aim is to achieve a 2% improvement in HCAHPS scores by January 30, 2025. Objectives of the project are to improve physician courtesy and engagement, implement the AIDET

(acknowledge, introduce, duration, education and thank you) model in daily patient interactions, to enhance patient's understanding of their medications and side effects and to improve communication about discharge planning and follow up care.

Methods

A 7-item questionnaire was devised incorporating the physician communication aspect of HCAHPS questionnaire. Pre-intervention questionnaires were administered to physicians, nurses and patients to assess the baseline score. This was followed by specified targeted interventions like interactive workshops, training sessions, simulation training and curriculum development to enhance physician communication. Subsequent changes in HCAHPS scores were assessed using a post intervention questionnaire. The sample population consisted of admitted inpatients, with an approximate convenience sample of 100 patients, 70 physicians, and 25 nurses. Informed consent was taken from participants before participation in the study. Descriptive statistics were used to summarize demographic data.

Results

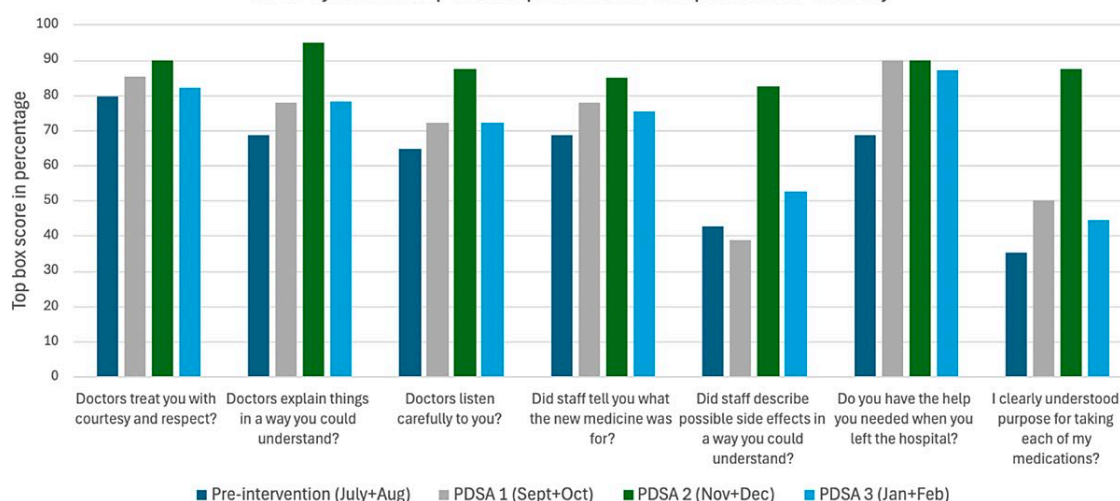
We collected survey responses from a total of 249 in-patients scheduled discharges out of which 54 responses were before intervention and 194 responses were post intervention. Only top box responses for each question were taken into consideration. Significant improvements in the majority of survey responses were seen in the post intervention survey when compared to that in pre intervention (shown in figure 1). In addition, the publicly reported standardized survey (also known as Press Ganey survey) response was also analyzed to see any change in survey scores compared to the scores from previous year (figure 2). A positive change in survey response were observed from patients based upon the standardized reported Press Ganey survey response. Some of the differences seen on the survey responses from HCAHPS survey and Press Ganey survey responses could be attributed to responses bias, long time interval between hospital discharge and date in which Press Ganey survey was administered, etc.

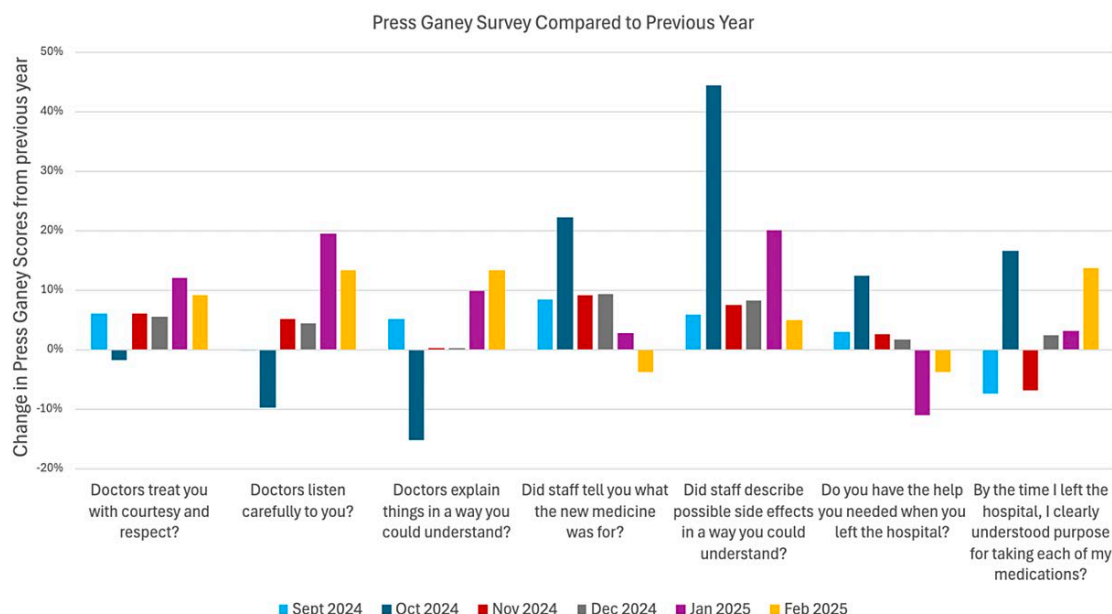
Conclusion

Patient feedback and in hospital experience which translates to HCAHPS responses could be improved by improving physician patient communication. This can further be achieved by adequately training physicians with the help of standardized workshops and supervised training sessions.

Conflicts of interest related to this abstract: None

PDSA Cycles and Top Box Responses for In-Hospital HCAHPS Survey





P-5035

Enhancing Patient Experience Through Collaborative, Multidisciplinary Teamwork

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Introduction

Patient experience is widely recognized as a key component of healthcare quality, emphasizing the need for an integrated, team-based approach to patient care. In hospital settings, professionals from multiple disciplines collaborate with the shared goal of patient recovery and healing, making effective communication and teamwork essential. To foster patient-centered care, a team-based autonomous patient experience improvement initiative was implemented. This initiative encouraged staff from the primary patient touchpoints, including inpatient units, outpatient clinics, and diagnostic laboratories, to proactively identify issues and engage in self-directed improvement activities. Each department assessed specific challenges and developed tailored solutions to enhance patient experience. By empowering staff to actively contribute to a collaborative, patient-centered culture, this initiative strengthened interdisciplinary cooperation and improved the quality of patient care. This study evaluates its impact and highlights the effectiveness of autonomous, team-based efforts in driving improvements in healthcare service quality.

Aim/Objective(s)

This study aims to assess how a team-based autonomous patient experience improvement initiative influences patient experience and staff collaboration in a hospital setting. Specifically, it examines the impact of self-directed teamwork initiatives on collaboration, problem-solving, and patient-centered care practices. The specific objectives are:

1. To assess the extent to which hospital staff awareness of patient experience improves through participation in the initiative.
2. To evaluate the impact of self-directed improvement activities on the identification and resolution of department-specific challenges and their role in fostering a patient-centered healthcare culture.

3. To examine how interprofessional communication and collaboration influence the development of a culture of mutual respect and teamwork.

By addressing these objectives, this study examines how autonomous, team-based approaches influence hospital workflows, interprofessional collaboration, and overall patient care quality.

Methods

A mixed-methods approach was used to assess the initiative's effectiveness. A total of 360 staff from 21 departments voluntarily participated, forming nine wards, six outpatient departments, and six diagnostic laboratory departments. Each team included professionals from at least three disciplines, ensuring interdisciplinary collaboration. Teams identified department-specific challenges and developed customized improvement strategies, with activities running from March to October in 2024. Data collection involved pre- and post-initiative online surveys with participant consent. The quantitative assessment comprised questions related three patient experience and five staff collaboration, rated on a 5-point Likert scale. A post-initiative evaluation measured overall satisfaction on a 10-point scale and collected qualitative feedback. Statistical analysis assessed key performance indicators, while qualitative data provided insights into participant experiences, challenges, and perceived benefits.

Results

The implementation of the initiative led to measurable improvements in patient experience and staff collaboration. A total of 360 participants engaged in team-based activities, with pre- and post-survey results indicating positive outcomes. Overall program satisfaction was rated 8.5 out of 10. As seen in Table 1, Patient-centeredness scores increased from 4.59 to 4.81 ($p < .01$), and patient-centered service competency improved from 3.90 to 4.14 ($p < .05$). Staff collaboration-related indicators also showed notable progress, with interdepartmental communication improving from 3.56 to 3.98 ($p < .01$) and collaborative problem solving ($p < .01$) increasing by the same margin. Additionally, mutual cooperation in core values improved from 4.13 to 4.45 ($p < .01$), reflecting a more cooperative and integrated work environment. Qualitative feedback reinforced these findings. Participants reported increased motivation and a stronger sense of ownership in improving patient experience. Many

noted that the initiative fostered deeper understanding and respect among professionals from different disciplines. Furthermore, teams emphasized that by developing department-specific strategies, they were able to address inefficiencies and improve outcomes of patient care. Additionally, participants emphasized the need for these activities to continue long-term rather than being limited to short-term efforts.

Conclusion

The team-based autonomous initiative has proven to be an effective strategy for improving patient experience while fostering a culture of collaboration, accountability, and innovation in healthcare. This study highlights how empowering healthcare professionals to lead patient-centered initiatives can drive measurable improvements in both patient care quality and hospital operational efficiency. The success of this initiative underscores the importance of integrating staff-driven teamwork models into hospital management strategies. Encouraging interdisciplinary collaboration and shared responsibility enables hospitals to sustain improvements in patient experience and operational performance. Allowing departments to identify and address their own challenges further enhances adaptability and effectiveness. As patient-centered care remains a priority in modern healthcare, structured team-based activities should be considered an essential component of long-term quality improvement strategies. Future research should explore the sustainability of these initiatives and identify best practices for adapting them across diverse healthcare settings. By promoting collaborative, team-based, and innovative approaches, healthcare organizations can enhance service quality, optimize hospital workflows, and cultivate a workforce committed to continuous improvement and patient-centered care.

Conflicts of interest related to this abstract: none

P-5036

Improving patient well-being through inpatient acoustic design

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Introduction

Well-being refers to the optimal balance of biological, psychological, and social factors that define an individual. Evidence suggests that the environment significantly influences well-being and health, especially in hospitals, where the setting affects patient recovery (Ulrich, 1984). Therefore, hospital design must consider all environmental factors. The World Health Organization identifies noise as the most critical factor, as it can negatively impact the health of vulnerable people (WHO, 1999). Nightingale asserts that "unnecessary noise is the cruelest absence of care that can be inflicted on the sick" (Nightingale, 2000). WHO recommends equivalent sound levels below 40 dBA and maximum levels below 30 dBA in inpatient areas. Unfortunately, the literature shows persistently high noise levels, which continue to rise annually. Moreover, no standardized protocol exists for assessing the acoustic quality of hospital wards, and noise control strategies based on user needs and experience are still undefined.

Aim/Objective(s)

In this context, our research addressed the issue of noise in hospital environments. The topic was declined to the context of the hospital ward, specifically of the acoustic well-being of the patient, during his stay in the minimal environmental cell, the patient room. The research had two main objectives: first, to define a clear and replicable method of investigation to assess the acoustic quality of inpatient wards; second, to propose

guidelines for controlling the acoustic quality of inpatient wards to improve the acoustic comfort of patients during their stay. These guidelines are addressed to health directorates, engineers, designers, and experts in the field.

Methods

The research involved a mixed method, based on quantitative and qualitative surveys. The preliminary phase of our research project was the state-of-the-art analysis. Subsequently, a field-work phase was planned, characterized by three different investigations: first, acoustic investigations, including long-term monitoring in typical rooms, short-term monitoring in common areas, spaces, and building elements performance measurements; second, structured observations of ward sound sources, with acoustic identification and characterization of the sources; third, in-depth interviews with users. The surveys took place in four Italian hospitals. The inpatient wards selected were one-corridor and two-corridor ward layouts, with ensuite two-bedrooms. The collected data were analyzed using a triangulation between methods. The evidence gathered from the literature and surveys formed the basis on which we prepared our proposal of strategies for the acoustic design of wards. These strategies were validated through discussions with stakeholders such as technicians, designers, and healthcare management.

Results

In each case study, the sound pressure levels measured within the sample rooms were above the WHO limits, both in occupied and unoccupied conditions. The sound sources detected in the ward were divided into seven categories: mechanical and electrical systems, clinical devices, private devices, alarms, verbal communication, anthropogenic noise, and equipment and furniture movement. The literature study and field results enabled strategies for noise control to be defined. The first strategy concerns the definition of preliminary acoustic requirements of environmental units as a support for inpatient wards spatial organization. These requirements concern the privacy level, noise level, and noise sensitivity level of the rooms. Next, intervention strategies were defined and grouped into 4 main categories. First, the technical design strategies; second, strategies for controlling the sound emission of alarms and sounds in the inpatient unit; third, strategies for user education and awareness; and fourth, strategies for implementing the acoustic accessibility of spaces. To promote an integrated design sensitive to the issue of acoustic well-being, all strategies have been summarized within an acoustic design checklist that is easy to read and use by stakeholders during the different stages of inpatient care design or renovation.

Conclusion

Noise is one of the most concerning environmental factors, as it can negatively affect the patient's recovery process in hospitals. Confirming the literature, the measured sound pressure levels don't comply with the WHO's standards. In our study, we proposed first a replicable survey protocol and then intervention strategies based on state-of-the-art data and field surveys. Our survey protocol proved to be effective in collecting a considerable amount of data without causing disturbances within the ward. We used a results matrix to systemize data from the literature and the field survey. This proved effective in outlining a repertoire of intervention strategies for controlling the acoustic quality of inpatient wards. In the context of health care, managing the design process of spaces and equipment requires the involvement of several figures, who need coordination and verification tools to support the actors in the various stages of the project. To ensure an integrated design that also meets acoustic requirements, an easy-to-understand checklist for stakeholders has been prepared to support the monitoring and implementation of the outlined strategies. Considering the effects

that a comfortable environment can have on the patient, investing in environmental quality means investing in the quality of the healthcare system.

Conflicts of interest related to this abstract: None

P-5037

Intergenerational Diabetes Mortality in Puerto Rico: Genetic and Behavioral Links in Parent-Child Deaths (1980-2024)

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Introduction

Diabetes is a major public health concern in Puerto Rico, contributing to a steady rise in mortality rates over four decades. Beyond individual risk factors, this study identifies a strong intergenerational component, with 46.5% of diabetes-related deaths showing a parent-child correlation. This trend highlights the need for culturally sensitive, family-centered healthcare interventions that address genetic predisposition, lifestyle factors, and barriers to care. While public health initiatives have expanded access to diabetes treatment, high mortality rates persist, particularly among low-income communities. This study examines diabetes-related deaths in Puerto Rico from 1980 to 2024, assessing trends, key risk factors, and the role of healthcare disparities. We come up with localized strategies that combine global best practices with patient-centered care models that are sensitive to different cultures by looking at how diabetes deaths change over time and finding intervention gaps.

Aim/Objective(s)

This study aims to analyze the long-term trends and intergenerational patterns of diabetes-related mortality in Puerto Rico, with a focus on culturally sensitive healthcare interventions. Specifically, the objectives are to:

1. Examine diabetes mortality trends from 1980 to 2024, identifying peak periods and demographic patterns.
2. Assess intergenerational correlations in diabetes-related deaths, exploring the role of genetics, environment, and socioeconomic factors.
3. Evaluate the classification of diabetes-related deaths, particularly the high proportion of unspecified diabetes cases (41.7%).
4. Identify culturally sensitive interventions that could enhance early diagnosis, patient education, and community-based diabetes management.

Develop evidence-based recommendations for hospitals and healthcare providers to implement patient-centered strategies, leveraging family engagement, dietary counseling, and digital health solutions to improve outcomes.

Methods

This study employs a quantitative retrospective analysis of diabetes-related mortality data from 1980 to 2024, obtained from the Puerto Rico Department of Health's official death records. The dataset consists of 70,702 diabetes-related deaths, categorized by ICD codes to assess cause-specific trends. Parent-child linkages were analyzed using unique familial identifiers to determine the extent of mortality correlation. Statistical analysis was conducted using logistic regression models and Spearman correlation tests to evaluate the strength of intergenerational diabetes mortality patterns. The study also controlled for external factors such as socioeconomic status, access to healthcare, and changes in diabetes classification (ICD-9 to ICD-10 transition). Additionally, secondary data from public health reports and hospital records were examined to contextualize

healthcare interventions and policy changes affecting diabetes mortality trends.

Results

The findings reveal that 46.5% of diabetes-related deaths exhibit a parent-child correlation, suggesting a strong genetic and environmental influence on diabetes mortality in Puerto Rico. Specifically:

- 15.7% of cases showed both parents and child dying from diabetes-related causes, indicating potential hereditary risk.
- 18.2% of cases correlated with the father only, while 12.7% correlated with the mother only, pointing to possible behavioral and cognitive influences in disease management.
- Unspecified diabetes without complications accounted for 41.7% of total cases, highlighting gaps in healthcare documentation.
- Renal complications (9.3%) and ketoacidosis (2.6%) were leading contributors to diabetes-related deaths, emphasizing the need for early intervention.
- A steady increase in diabetes mortality was observed, peaking in 2020 with 2,675 deaths, reflecting the growing burden of the disease.

These results suggest that both genetic predisposition and shared lifestyle behaviors play a crucial role in diabetes mortality.

Conclusion

This study provides strong evidence of intergenerational diabetes mortality patterns in Puerto Rico, reinforcing the need for personalized, culturally sensitive healthcare interventions. The high parent-child correlation in diabetes deaths indicates a dual influence of genetic predisposition and lifestyle behaviors, requiring targeted prevention efforts. Healthcare providers must adopt family-based diabetes education programs, culturally relevant dietary counseling, and early screening initiatives to improve patient outcomes. Additionally, addressing healthcare disparities and enhancing disease classification can lead to better monitoring and management of diabetes complications. By leveraging global research insights and adapting them to Puerto Rico's unique cultural and socioeconomic context, this study proposes actionable strategies to reduce diabetes mortality. Policymakers and healthcare leaders must prioritize family-centered interventions to break the cycle of intergenerational diabetes and enhance long-term patient outcomes.

Conflicts of interest related to this abstract: None

P-5038

Investigating the Effectiveness of Multimedia Oral Health Care Education on Oral Hygiene in Orthodontic Patients

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Introduction

According to statistics from the World Health Organization (WHO), approximately 70% of the global population experiences some degrees of malocclusion. Orthodontic treatment plays a critical role in improving oral health, restoring occlusal function, and enhancing aesthetics. However, the use of fixed orthodontic appliances poses significant challenges to maintaining oral hygiene, as food particles frequently become trapped, leading to plaque accumulation and an elevated risk of periodontal disease and cavities.

Aim/Objective(s)

To evaluate the effect of combining verbal instructions with multimedia oral health care education on enhancing oral hygiene in patients undergoing comprehensive orthodontic treatment.

Methods

This study utilized a quasi-experimental design and was conducted at an orthodontic outpatient clinic in a medical center in Taipei City. The participants were patients undergoing comprehensive orthodontic treatment for the first time. They were divided into an experimental and a control group, each comprising 45 subjects. The experimental group received both routine and multimedia audiovisual health education, while the control group received only routine health education. Participants in both groups completed questionnaires assessing oral care knowledge (11 items), attitudes (10 items), and behaviors (11 items) before and after the educational intervention. Higher scores indicated more favorable outcomes. Additionally, plaque index scores were measured prior to the intervention and at one month and three months post-intervention to evaluate oral hygiene (with higher scores indicating poorer hygiene). Data were analyzed using independent-sample t-tests and generalized estimating equations.

Results

The mean ages of participants in the experimental and control groups were 25.93 ± 3.82 and 26.49 ± 4.57 years, respectively, with no significant difference ($t = 0.63$, $p = 0.53$). There were no significant differences between the two groups at baseline in oral care knowledge, attitudes, behaviors, or plaque index scores ($t = -0.69$; $t = -1.52$; $t = 0.20$, $p > 0.05$). After receiving multimedia oral health care education, the experimental group demonstrated significantly higher scores in knowledge, attitude, and behavior compared to the control group ($t = -9.29$; $t = -2.08$; $t = -3.29$, $p < 0.05$). Additionally, the experimental group had significantly lower plaque index scores than the control group at both one month and three months post-intervention (47.27 vs. 62.42 ; 34.11 vs. 62.98 , $p < 0.05$). The plaque index scores of the experimental group showed a decreasing trend at one and three months compared to baseline, while those of the control group increased, with both trends demonstrating statistically significant differences ($\beta = -20.91$; $\beta = -34.62$, $p < 0.001$). These findings indicate that the proposed multimedia oral health care education program effectively reduced plaque index scores in orthodontic patients.

Conclusion

The multimedia oral health care education program proposed in this study is simple, cost-effective, and significantly improves oral hygiene in patients undergoing comprehensive orthodontic treatment. It contributes to better oral cleanliness and supports the development of a standardized oral health care model. This program has the potential to enhance the quality of care provided by clinical staff.

Conflicts of interest related to this abstract: none

P-5039

Makatimed@Home: We go where you are

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Introduction

Makatimed is a premium tertiary hospital committed in delivering high quality, personalized, and accessible health care services closer to the communities it serves. With its goal of reaching a wider coverage area to be accessible to more patients

outside of Makati and with the commitment to bring professional and compassionate care to patients in an environment that is familiar and relaxed by offering services at home through Makatimed@Home. Through a holistic approach, the unit aims to improve the quality of life of patients who are home-bound, terminally ill patients, needing diagnostic services, supportive care and treatment.

Aim/Objective(s)

1. To offer a holistic approach to improve the quality of life of patients who require home-based care, relieve the suffering of terminally ill patients, offer diagnostic services, pain management, supportive care and treatment options in the home environment.
2. To have a one central unit that will cater to house call, home services, diagnostic procedures and mobile care services.
3. To be more efficient and cost effective in managing manpower and logistics expense.
4. To be the sought-after Home Services in NCR due to complete array of services we offer.
5. To extend home/mobile services to the citizens of Makati and the neighboring cities to keep up with the trend and change in the delivery of healthcare in an environment that is familiar and relaxed.
6. Partner with communities, villages and companies in bringing healthcare services accessible on-site.

Methods

PDCA cycle was used for this project.

PLAN

- Expand reach, Increase census, Expand services method, Monitor Census, Train staff to offer new services, Coordinate with other departments like Laboratory, Nursing services, CDL etc., Create training plan for staff, Coordinate with other Outpatient Units to plan transition turn-over of home services offered to Makatimed@Home to take on.

DO

- Staff training started according to training plan, Business review quarterly, Timeliness for offering of new services, Meet with the different departments for trainings and timeliness for turn-over of home services.

CHECK

- Increase in patient census, **Introduction** of new services, Certificate of completion for required trainings

ACT

- Improve timeliness for trainings and turn-over of home services, Initiatives to increase census and revenue, Mobile coordinator to close new accounts both corporate and community.

Results

Launch of Makatimed@Home was done in April 2024 to consolidate home services. The goal is to integrate and streamline services, provide service quality, increase patient satisfaction and expand reach.

- PSI Rating = 5/5
- Patient Census increased by 2074% vs last year and 10% vs target. This is mainly due to the changes implemented after the launch of Makatimed@Home.
- Procedure Census increased by 6576% vs last year and 39% vs target. This is mainly due to the changes implemented after the launch of Makatimed@Home particularly with the tracking of the services rendered to our patients.
- We catered to 27 patients for Mobile health clinic and completed 127 procedures for 2024.
- Processing of registration, scheduling and billing of all Makatimed@Home (MMH) patients are done by the PSR.

Conclusion

In conclusion, Makatimed@Home is poised to redefine the landscape of home healthcare by expanding its reach beyond Makati City, fostering innovation in service delivery, and introducing preventive health programs that complement traditional diagnostic and treatment services. Our commitment to a holistic approach to care, coupled with the continuous upskilling of our staff, ensures that we provide exceptional patient experiences that drive satisfaction and loyalty. By prioritizing patient-centered care, we aim to be the top choice for home healthcare in Makati and secure our place among the top 20 home healthcare providers in the Philippines within the next five years. Through these initiatives, we will not only enhance our operational reach but also elevate the quality of care, ultimately making healthcare more accessible, personalized, and comprehensive for all.

Conflicts of interest related to this abstract: None

P-5040

Optimizing MRI Scheduling to Enhance Patient Experience and Operational Efficiency.

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Introduction

Taipei Medical University Hospital, a leading healthcare institution in northern Taiwan, has long been committed to delivering advanced medical imaging services. Over the past decade, the demand for Magnetic Resonance Imaging (MRI) exams has doubled, straining available resources despite investments in state-of-the-art equipment and skilled personnel. As a result, outpatient MRI appointment wait times averaged 14 days, with some patients waiting over a month, leading to dissatisfaction, anxiety, and potential delays in critical diagnoses and treatments. To address this challenge, our Medical Imaging Department established a quality control circle to identify root causes and implement strategies to reduce wait times to 7 days, improving patient access, experience, and operational efficiency.

Aim/Objective(s)

Magnetic Resonance Imaging (MRI) is essential for modern healthcare, but rising demand has caused significant delays. At our hospital in northern Taiwan, MRI exam requests have doubled over the past decade, pushing outpatient wait times beyond one month. These delays impact patient experience, diagnosis, and treatment. To address this, our Medical Imaging Department established a quality control circle to reduce wait times from 14 to 7 days, improving access, satisfaction, and efficiency. Through a comprehensive workflow analysis, we identified bottlenecks and implemented targeted interventions, including streamlined scheduling, reduced no-show rates, and improved staff coordination. These measures enhanced workflow efficiency, optimized resource use, and ensured a more patient-centered MRI service. By improving accessibility and responsiveness, our initiative aimed to deliver high-quality diagnostic imaging while addressing the growing demands of our community.

Methods

To address prolonged outpatient MRI appointment wait times, our quality control circle employed a systematic, data-driven approach. We analyzed 12 months of historical data on MRI exam volumes, scheduling patterns, and resource utilization from electronic medical records and radiology systems. A comprehensive workflow analysis, including direct observations, staff interviews, and patient surveys, identified inefficiencies

and bottlenecks. Based on these findings, we implemented a multi-faceted intervention strategy: 1) optimizing scanner utilization by extending hours and minimizing idle time; 2) introducing a centralized scheduling system to reduce no-shows; and 3) improving interdisciplinary communication among physicians, radiologists, and technologists. Patient education materials were also developed to enhance exam preparation. Key performance indicators, such as wait times, satisfaction scores, and exam volumes, were continuously monitored, with statistical analyses ($p < 0.05$) confirming the effectiveness of these interventions.

Results

Following the implementation of a multi-faceted intervention strategy, significant improvements were observed in both process and outcome measures for outpatient MRI appointment wait times. MRI scanner utilization increased from 1,383 to 1,485 exams per month within 12 months by extending operational hours and reducing idle time (Figure 1). Average wait times decreased from 14 to 7 days ($p < 0.05$) within a year (Figure 1), while patient no-show rates dropped by 60% due to a centralized scheduling system and enhanced patient education (Figure 2). Standardized protocols and interdisciplinary meetings improved communication efficiency among referring physicians, radiologists, and technologists by 20% (Figure 3). Patient satisfaction scores increased from 6.6 to 9.0 on a ten-tier scale, reflecting an enhanced patient experience (Figure 4). Additionally, outpatient MRI exam volumes rose by 7.3% without compromising quality or safety (Figure 1). These findings demonstrate the effectiveness of a systematic, data-driven approach in improving operational efficiency and patient access to care.

Conclusion

Our quality improvement initiative successfully reduced outpatient MRI appointment wait times from 14 days to 7 days, demonstrating the effectiveness of a systematic, data-driven approach in addressing operational inefficiencies. By implementing a multi-faceted intervention strategy, we not only improved access to imaging services but also enhanced patient satisfaction and increased exam volumes without compromising quality or safety. These results highlight the value of targeted process optimization in improving both workflow efficiency and the overall patient experience. The implications for clinical practice are substantial. Shorter wait times enable timely diagnosis and treatment, potentially improving patient outcomes and reducing healthcare costs associated with delayed care. Additionally, enhanced patient satisfaction aligns with a patient-centered care model, reinforcing our hospital's commitment to quality service. This initiative underscores the importance of continuous quality improvement, interdisciplinary collaboration, and data-driven decision-making in optimizing medical imaging services.

Conflicts of interest related to this abstract: None

Fig 1

Comparison of MRI Outpatient Scheduling Wait Time after QCC

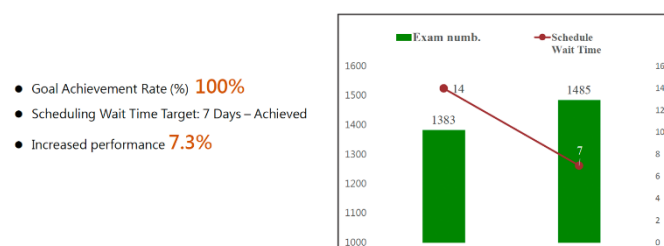


Fig 2

60% Improvement in No-Show Rates for Scheduled Examinees

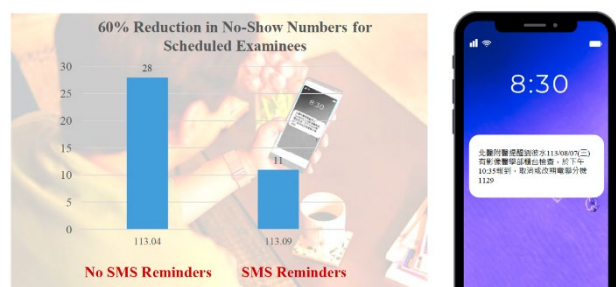
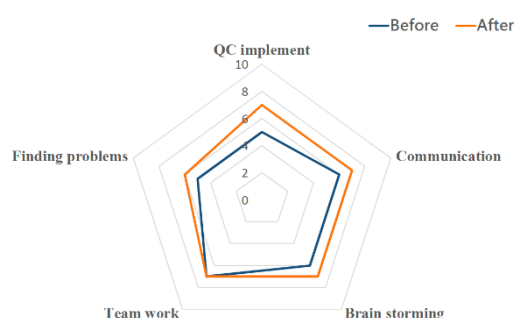
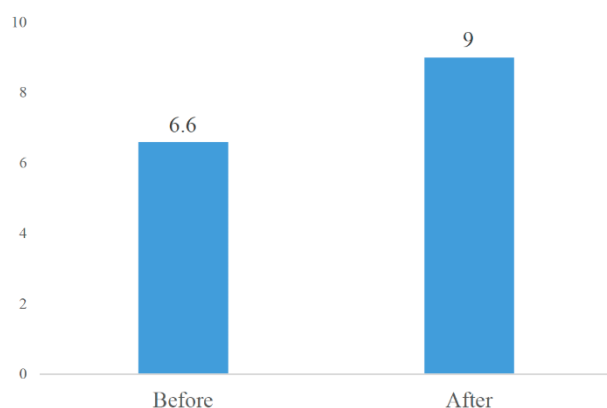


Fig 3

Radar Chart for Quality Control Capability Assessment of Recruiters



Examinee Satisfaction



Aim/Objective(s)

Using continuous monitoring of individuals, we aimed to develop targeted metrics that could be easily collected and interpreted for daily fitness use. Our intention was to create a phone application that would display the collected data and offer AI-generated recommendations, enabling user to adjust their daily routines and enhance their overall activity and fitness. Ultimately, our goal was to shift the focus from disease management to the maintenance of wellness.

Methods

We conducted a study involving a cohort of elderly home-based individuals and athletes from various sports. Over the past two years, these subjects were continuously monitored. By focusing on the five key parameters--heart status, activity level, BMI, VO2max, and sleep patterns, we developed a Personal Health Index (PHI). An algorithm was then created to calculate an individualized PHI that considered factors such as age, sex, and injuries. Generative AI was used for data analysis and to develop unique recommendations for each individual. Additionally, we designed a customized phone application for each participant that displays the PHI and specific recommendations for daily improvement.

Results

We enrolled 420 participants, comprising UNF student athletes and adults from the YMCA, who were continuously monitored using a Fitbit wearable. The parameters studied included heart rate, VO2 max, heart rate variance, weight, activity level, sleep patterns, and general wellness and injury status. All variables are important in athletic and general fitness conditioning. Spearman rank correlation analysis revealed that all vital signs had a strong positive correlation with the PHI Index. Additionally, we found a positive correlation between athletic performance, injury recovery and the PHI score. We analyzed the athlete subgroup and the YMCA fitness group separately and noted strong correlation of the vital signs with the PHI score in both groups. We have developed a customized app that uses generative AI to analyze the data and provides individualized recommendation to the user to improve their PHI score on a daily basis.

Conclusion

This research explores the potential of continuous remote patient monitoring to improve performance by providing individualized recommendations for lifestyle changes. All subjects wore a wearable device which was continuously monitored. Using the collected data and the newly developed metric, we found that tracking serial PHI scores can serve as a valid predictor of performance. Monitoring the daily PHI score and maintaining it can increase fitness levels and athletic performance. We have developed an app that uses generative AI to analyze the data and develop specific recommendations for users to improve their PHI score on a daily basis. This new metric is a cost-effective technology that shifts the educational emphasis of healthcare professionals from disease management to wellness and prevention.

Conflicts of interest related to this abstract: None

P-5042

Personal Health Monitoring Using AI

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Introduction

With the rapid advancements in wearable technology, the demand for physical health monitoring has significantly increased. Wearable sensors, such as Fitbit and Apple Watch, offer flexible, remote, portable, and timely capabilities for monitoring vital signs and physiological data. At UNF, we have developed a new health indicator using data collected by wearable devices. By leveraging artificial intelligence (AI) we have created customized guidelines aimed at reducing the risk of injury during exercise, rehabilitation, and daily life.

P-5043

Program of "Scientists in Practices" in hospitals and institutes belonging to the Spanish Health Network of Social Responsibility and Sustainability.

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Introduction

Socio-economic inequalities make it difficult for disadvantaged groups to reach the conditions required to gain access to scientific research careers. Actions are needed to promote the education of the most disadvantaged young people and their access, under fair conditions, to a profession where meritocracy is the main value for access. Cientific@s en practices (Scientists in training) is an initiative of the Spanish National Research Council (CSIC) and the Spanish Association for the Advancement of Science (AEAC), with the strategic collaboration of the Spanish Health Network for Social Responsibility and Sustainability (RSRS). CSIC is the largest public research institution in Spain. The AEAC is a citizens' association aiming to contribute to bringing science closer to society. The RSRS is an association of professionals from public hospitals aimed at raising awareness of Social Responsibility and Sustainability policies in order to forge a reference model defining global SRS in the Spanish healthcare sector.

Aim/Objective(s)

To provide young students from disadvantaged areas with the opportunity to spend time in groups and laboratories of research institutes and hospitals belonging to the Spanish Health Network for Social Responsibility and Sustainability. The aim is to develop a programme in a social dimension that provides an opportunity, through the health sciences, to come into contact with an environment to which they would otherwise have difficulty access. The Network aims with this programme to help students improve their knowledge and better understand the scientific and research world, as well as to make them and their environment aware of the importance of developing critical thinking and the role of science as a fundamental pillar for our society.

Methods

Scientists in Practice is a training programme for young secondary school students that gives them the opportunity to immerse themselves in the world of scientific research. Among other activities, students are given a guided tour of the research facilities of one of the University Hospitals, Health Research Institutes, and CSIC Research Centres participating in the programme. They then spend time as trainee researchers in one of the research groups at these institutions. The students interact with the group's staff and actively participate in the activities they carry out, following an ad hoc activity and training plan designed by each group. At the end of their stay, as in any research project, the students have to write a summary of what they have done and what they have learnt during their stay. 64 research groups and 24 secondary schools are participating in the 2024-25 edition of the programme.

Results

'Scientists in Practice' started in the academic year 2021-22 in the city of Madrid, with the participation of 4 secondary schools and 19 research groups. In its fourth edition, currently underway, 64 research groups and 24 secondary schools are participating, in 12 different towns and cities. During the first three editions, 258 students have completed their stay as scientific interns, and 147 will do so in this edition. The satisfaction survey

addressed to students at the end of their stay shows that, in 2024, the most highly valued aspects were the dedication of the research staff and how they facilitate students' learning (4.9 on a scale of 1 to 5), and the learning they obtained during the stay (4.8). On their side, researchers highlighted the level of effort of the students (4.7) and their personal satisfaction with the experience of hosting the students in their group (4.6). In their responses to open-ended questions, the most positive aspects they mentioned were the students' real contact with research and learning in the first person and their interest, curiosity, enthusiasm, motivation and positive attitude. All this, without forgetting to mention the great investment of time and effort required by the research groups.

Conclusion

CiP is a cultural activity, as it is educational, informative and scientific, and produces an impact on society through young people, who incorporate science through direct immersion, and also act as transmission belts to their families and the rest of their environment. And secondary school teachers are also impacted by this direct contact with research groups and hospitals. The project has become a program due to its great reception in all research groups, research institutes, secondary schools, students, teachers and all organizations. The Scientists in Practice programme began in the Community of Madrid and for the first two years it was local but has been transformed into a national programme. It is currently being developed in three communities in Spain: Galicia, Castilla y León, the Balearic Islands and Madrid.

Conflicts of interest related to this abstract: None

P-5044

Quality of life, anxiety, and depression improve at one-year after liver transplantation in patients with advanced liver disease

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Introduction

Chronic liver disease causes significant physical and psychological impairment due to the reduction of the liver's synthetic and detoxifying functions, as well as complications arising from portal hypertension and chronic cholestasis. The likelihood of survival without liver transplantation (LT) in patients with cirrhosis depends on disease severity, which is assessed using two systems: the MELD score and the Child-Pugh score. The impact of transplantation on quality of life has recently attracted interest in the transplant community. After being placed on the waiting list for LT, patients often experience a deterioration in their physical and psychological health, compounded by uncertainty about their transplant status.

Aim/Objective(s)

To evaluate the impact of LT on QoL, anxiety, and depression in patients with liver disease, comparing these outcomes to their pre-transplant baseline. It also examines how these changes interact with disease severity and psychosocial factors present at the time of surgery.

Methods

Patients who received LT at the Fundación Santa Fe de Bogotá between 2017 and 2019 were assessed for quality of life (QoL), anxiety, and depression and they were followed up for one year

after the procedure. Pre-transplant data were gathered at inclusion on the waiting list, while post-transplant data at 3- and 12 months after LT. European Quality of Life-5 Dimensions (EQ-5D) and European Quality of Life-Visual Analog Scale (EQ-VAS) instruments were used to evaluate QoL. The Hospital Anxiety and Depression Scale (HADS) was used for evaluating anxious and depressive symptoms.

Results

115 recipients met the inclusion criteria. Mean pre-transplant EQ-VAS was 70.78, rising to 87.16 and 92.56 at 3- and 12-months, respectively. Improvements in all EQ-5D dimensions were found in response to LT. According to the HADS questionnaire, anxiety was reduced by 2.35 points and depression by 1.63 points after LT.

Conclusion

In the short term, LT is a successful strategy for enhancing QoL, anxiety, and depression in patients with liver disease. Long-term benefits must be assessed. Our study provides insights into how LT affects QoL in a Latin American context. We found that the QoL according to the EQ-5D improves when a patient with chronic liver disease receives a LT. This benefit is kept in all the dimensions that are evaluated by this instrument. However, we found that the improvement is not evenly distributed over time, and that LT affects each dimension differently. These findings are consistent with similar studies conducted globally over the past decade. Interestingly, a higher MELD score did not necessarily correlate with poorer QoL, but some were observed when using the Child-Pugh score. We also found a significant improvement in anxious and depressive symptoms after LT. These findings demonstrate that LT has also a positive impact on the emotional health of patients with liver disease. Of note, females had more frequently abnormal HADS scores in the pre-transplant setting similarly to what was described by Dąbrowska-Bender et al.

Conflicts of interest related to this abstract: None

P-5045

Remote Management of Patients Undergoing Robot-Assisted Radical Prostatectomy at Santo António Hospital

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Introduction

Robot-assisted radical prostatectomy (RARP) is the gold standard for the surgical treatment of prostate cancer, offering benefits such as reduced morbidity and faster recovery. However, efficient perioperative management remains a challenge, affecting hospital occupancy rates and patient experience. Santo António Hospital implemented the Get Ready® Robotics solution, a digital platform for remote patient monitoring, integrated into the enhanced recovery after surgery (ERAS) protocol. The focus is on improving the pre- and postoperative management of RARP patients, optimizing hospital workflows, reducing complications, and enhancing patient satisfaction. This digital solution enables continuous interaction between patients and healthcare professionals, offering remote monitoring of pain, temperature, urinary, and sexual function, educational support, and communication via chat and calls, promoting a safer and more efficient recovery.

Aim/Objective(s)

This study aims to assess the impact of Get Ready® Robotics on the perioperative journey of patients undergoing robot-assisted radical prostatectomy at Santo António Hospital. The main objectives of this remote monitoring program include:

1. Reducing hospital length of stay through remote management and optimized care flows.
2. Increasing same-day surgery admissions, minimizing unnecessary hospitalizations.
3. Enhancing patient experience and adherence to postoperative recovery, providing continuous remote support.
4. Monitoring postoperative complications early, allowing prompt and effective interventions.
5. Evaluating patient satisfaction and platform usability, ensuring that Get Ready® Robotics adds value to clinical care.

This solution was designed to create an innovative and replicable model for hospitals performing robotic surgeries.

Methods

An observational study was conducted with patients undergoing robot-assisted radical prostatectomy. The Get Ready® Robotics solution was integrated into the perioperative protocol and structured into three phases:

1. Preoperative phase: Patients received personalized digital education via the app about the procedure and postoperative care through a nursing consultation. They were provided with guidance on necessary precautions and completed preoperative assessment questionnaires.
2. In-hospital phase: Patients could access information on their surgery and complete questionnaires assessing their surgical and hospital experience.
3. Post-discharge phase: Patients were remotely monitored for one week, tracking pain and temperature. Alerts were triggered for clinical follow-up when needed. Patients received educational content on post-discharge care and completed quality of life, urinary, and sexual function questionnaires to track their progress over 24 months post-surgery.

Results

Since the implementation of Get Ready® Robotics (40 patients), the following clinical and operational benefits have been observed:

- Reduction in average hospital length of stay, optimizing hospital resource management.
- Increase in same-day surgery admissions, reducing unnecessary hospitalizations.
- Improved patient experience:
 - Patients felt safer and more supported during home recovery.
 - 100% of patients would recommend the surgical technique and digital program to family or friends.
- Effective postoperative monitoring:
 - Triggered clinical alerts allowed early intervention, preventing complications.
 - Enhanced communication between patients and healthcare professionals, with message-based and telephone support via the app.
- Improvement in urinary and sexual function:
 - Follow-up data indicated progressive improvement in urinary incontinence and erectile function within the first six months post-surgery.

The adoption of this solution demonstrated a positive impact on hospital efficiency, clinical safety, and patient satisfaction, promoting an innovative digital model for robotic surgery management.

Conclusion

The implementation of Get Ready® Robotics at Santo António Hospital has proven to be an effective solution for optimizing the patient pathway in robot-assisted radical prostatectomy. The key benefits observed include a reduction in hospital length of stay, an increase in same-day surgery admissions, effective

remote monitoring, greater patient engagement and satisfaction, and progressive improvement in urinary and sexual function, reinforcing the advantages of robotic surgery. Furthermore, the digitalization of the patient journey, combined with education and remote support, has demonstrated a sustainable and replicable model for hospitals performing minimally invasive surgeries. Given the program's success, the hospital plans to expand the platform's use to other robotic surgeries. The Santo António Hospital experience highlights the potential of digital solutions in transforming surgical care, reinforcing the importance of integrated remote management in the digital health era.

Conflicts of interest related to this abstract: None

P-5046

Revolutionizing Patient Access: A Multi-Channel Communication Approach to Transform Healthcare Delivery

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Introduction

The Aga Khan University Hospital, Pakistan, is revolutionizing patient access and engagement through its innovative multi-channel communication approach, aimed at transforming healthcare delivery and enhancing patient experiences. With the growing demand for accessible, efficient, and patient-centered healthcare services, the Patient Access Department has adopted cutting-edge technologies, including WhatsApp, mobile applications, interactive websites, and social media platforms. These tools collectively streamline patient-provider interactions, making healthcare more inclusive, faster, and convenient for individuals from diverse backgrounds. This initiative highlights the hospital's commitment to providing equitable healthcare access by eliminating barriers, such as long call queues, and ensuring seamless communication through a familiar platform. Additionally, the incorporation of data-driven methodologies, including real-time tracking of interactions and performance metrics, underlines a strong focus on operational efficiency and continuous improvement. By serving over 1.5 million patient interactions annually, this initiative exemplifies a comprehensive, patient-centric approach that sets new benchmarks for healthcare accessibility and service excellence.

Aim/Objective(s)

The primary aim of this initiative is to enhance patient access and engagement through a comprehensive multi-channel communication framework that integrates advanced digital tools to streamline healthcare delivery. Specifically, the objectives are to improve healthcare accessibility by providing convenient platforms such as WhatsApp, mobile applications, interactive websites, and social media, ensuring seamless interaction between patients and healthcare providers. Additionally, the initiative seeks to enhance operational efficiency and patient experience through data-driven methodologies, including real-time tracking of interactions and performance metrics, to continuously optimize service delivery. By offering familiar, user-friendly channels, it promotes equitable healthcare access, particularly for underserved communities, reducing barriers and enhancing inclusivity. Furthermore, it empowers patients with self-service capabilities, enabling them to independently manage their healthcare through features like appointment scheduling, accessing medical records, and viewing real-time test results, thereby fostering autonomy and satisfaction.

Methods

The project employed a mixed-methods approach to develop and implement a multi-channel communication framework

aimed at enhancing patient access and engagement. The initiative targeted a diverse patient population of over 1.5 million annual interactions across various services, including physical clinics, tele-clinics, radiology, cardiopulmonary, laboratory services, and home health services. Data collection involved real-time tracking of inbound and outbound calls, WhatsApp interactions, mobile application usage, website visits, and social media engagements. Quantitative data was gathered through metrics like call-handling efficiency, drop-call rates, appointment distribution, and customer satisfaction scores, while qualitative data was collected through patient feedback surveys on WhatsApp. Analytical tools included performance dashboards and monthly reports to identify trends, areas for improvement, and overall efficiency. Continuous monitoring and feedback integration enabled optimization of communication channels, enhancing accessibility and patient satisfaction. The approach ensured inclusivity by accommodating patients from diverse demographics and geographical locations.

Results

The implementation of the multi-channel communication framework resulted in significant improvements in patient access, operational efficiency, and overall satisfaction. With over 1.5 million patient interactions facilitated annually, the initiative successfully integrated various communication platforms, including WhatsApp, mobile applications, interactive websites, and social media, to enhance accessibility. The contact center achieved over 90% call-handling efficiency in 2024, reflecting streamlined processes and improved service delivery. Additionally, the introduction of WhatsApp as a primary communication channel reduced call queues and improved accessibility for underserved communities, providing hassle-free appointment scheduling, information portals, and chatbot options. The mobile application further empowered patients by enabling them to independently manage their healthcare through features like appointment scheduling, viewing medical records, and accessing real-time test results. Patient satisfaction scores, measured through WhatsApp surveys, consistently exceeded 70%, demonstrating the success of the initiative in enhancing patient experiences. Furthermore, a remarkable growth ratio of 32.07% was achieved in 2024, indicating increased patient engagement and improved service efficiency. The data-driven approach allowed continuous optimization of service delivery, ensuring that the healthcare needs of diverse populations were met effectively. The results highlight the initiative's success in revolutionizing patient access and setting new benchmarks for healthcare delivery excellence.

Conclusion

The multi-channel communication initiative at The Aga Khan University Hospital, Pakistan, has successfully transformed patient access and engagement through the integration of innovative digital tools such as WhatsApp, mobile applications, interactive websites, and social media. By enhancing communication channels and streamlining service delivery, the initiative has addressed critical issues of healthcare accessibility, operational efficiency, and inclusivity. Achieving over 90% call-handling efficiency and consistently high patient satisfaction scores demonstrates its effectiveness in improving the patient experience. Furthermore, this approach contributes to health service improvement by establishing a data-driven model that continuously optimizes healthcare delivery based on real-time insights and feedback. The initiative's user-friendly channels have effectively reduced barriers for underserved populations, promoting equitable access to healthcare services. Additionally, empowering patients with self-service capabilities through digital platforms fosters autonomy and satisfaction, further enhancing patient-centric care. The innovative contribution of this project extends beyond operational efficiency, offering a scalable and replicable model that can inform policy-making and

practical implementations within healthcare systems globally. By bridging the gap between patients and healthcare providers through accessible, technology-driven solutions, this initiative sets a new standard for delivering inclusive, efficient, and high-quality healthcare services

Conflicts of interest related to this abstract: None

P-5047

Sensory Garden: From Protection to Connection with Nature

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Introduction

Gardens in hospitals play a crucial role in enhancing the health and well-being of all those involved. These spaces provide moments of tranquility, connection with nature, and sensory stimulation, significantly contributing to the humanization of the hospital environment, the promotion of mental health, and raising awareness about environmental preservation. Numerous studies focus on their benefits (relaxation, sensory stimulation, faster recovery, improved quality of life and mood, reduced pain). It was within this context that the "Sensory Garden: From Protection to Connection with Nature" project was conceived and implemented at our local health unit.

Aim/Objective(s)

The goal of this project was to requalify and transform an existing green area into a sensory garden for professionals, patients/families, as well as to create four sensory melodies composed by professionals from the institution with the help of their children. This project is based on four fundamental pillars: innovation, humanization, partnership, and sustainability.

The objectives are as follows:

- Allow exploration of the five senses through direct interaction with nature
- Awaken different sensations through person-plant contact
- Promote the mental health of users through harmony with nature
- Promote a protective relationship with environmental values, aligned with the Sustainable Development Goals (SDGs 3; 11; 12; and 15).

Methods

Materials: Native plants of various colors, textures, aromas, and tastes; requalified pond with an economical, adjustable submersible pump and use of circular water; polished river stones; 3 rest benches made of recycled plastic; flower boxes and guides in different sizes; geotextile; basket for pine cones, leaves, pine bark; paths and trails; 2 insect hotels; access ramp.

Methods based on 5 key points:

- Location: analysis of the space and selection of the most suitable materials (plants, materials), including a ramp for wheelchair access.
- Planning: design of the garden plan, including the arrangement of plants, shrubs, and additional elements.
- Preparation of the Area: cleaning, pruning of existing bushes; outlining of paths and trails; planting, placing gravel, stone dust, and pine bark along the paths and trails.

- Maintenance: regular cleaning and pruning to ensure plants and additional elements are in good condition.

Results

- Established a closer connection with the municipality of Santa Maria da Feira.
- Support from five local companies through their corporate social responsibility initiatives.
- Encouraged volunteer work from both internal and external professionals.
- Garden access available to all hospitalized patients, including those with motor disabilities.
- National and international visibility of this project.
- 200 native plants were planted, including aromatic herbs such as rosemary, peppermint, sage, thyme, basil, bay laurel, oregano, etc.
- Sensory garden inauguration on December 12, 2024.
- Composed four original instrumental melodies, inspired by the four seasons: "Sensory Melodies."
- Internal procedures developed for maintaining the sensory garden, with recommendations for keeping the space clean and techniques for sensory connection with nature.

Conclusion

Although the implementation of the sensory garden was recent, the satisfaction of users (professionals and patients) is already evident, both from the requalification of the space and from the sensory experience they were able to enjoy. It is important to recognize that this garden became a reality thanks to the hard work of internal and external volunteers who dedicated their time, effort, and commitment, as well as companies that donated materials and equipment. It is becoming increasingly important for healthcare institutions to adopt innovative strategies that promote mental well-being. For this reason, the sensory garden can be seen as a refuge for relaxation, direct contact with nature in the pursuit of inner serenity, and a way to recharge the energy of all users, especially healthcare professionals

Conflicts of interest related to this abstract: None

P-5048

Smart Health Corridor: A New Model for Integrating Smart Walking into Hospital and Outdoor Environments

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Introduction

As healthcare transitions from disease treatment to prevention and health promotion, employee health management has become a crucial focus for medical institutions. Prolonged sedentary behavior and lack of physical activity are common health risks, particularly among healthcare professionals who have limited opportunities for exercise due to their busy schedules. To encourage employees to be more physically active and to integrate smart technology into health promotion, we have launched the "Smart Health Corridor" initiative, extending health-promoting activities from within the hospital to outdoor environments, creating a seamless integration of technology and exercise.

Aim/Objective(s)

To enhance employee participation, we leveraged modern technology tools to make exercise more accessible, flexible, and engaging:

- Smart App Integration: Employees can track their steps and log their exercise records through a walking app.

- Google Location-Based Check-ins: Outdoor walking routes, such as Siaogang Forest Park, feature Google location check-ins, encouraging employees to complete designated routes.
- Data Tracking and Incentives: The app records step counts and distances walked, allowing participants to earn rewards based on accumulated activity levels.

Methods

This initiative integrated in-hospital and outdoor walking programs to promote employee health. A six-month observational study was conducted among hospital employees participating voluntarily.

Sampling & Participants: Employees self-enrolled in three activities:

Twin Towers Stair Climbing Challenge – QR code scanning tracked stair use.

Online Walking Challenge – Steps were recorded via a mobile app.

Outdoor Smart Walking – Google location-based check-ins verified participation.

Data Collection & Tools: A digital platform collected step counts, participation rates, and QR code scans.

Data Analysis: Descriptive statistics assessed step averages and total distances.

Results showed an average of 7,532 steps/day per participant, accumulating 440,622,000 steps, equivalent to 7.7 Earth circumferences, highlighting the program's success in sustaining physical activity.

Results

The Smart Health Corridor integrates in-hospital and outdoor walking programs to promote sustained physical activity among employees. KMSH Twin Towers Stair Climbing Challenge – Employees climb hospital stairs, scan QR codes at designated floors, and track progress via an app to accumulate altitude-based points. Online Walking Challenge – Employees log steps anytime, with individual and team competitions (3-5 members per team). Real-time rankings enhance engagement. Outdoor Smart Walking at Siaogang Forest Park – Employees walk in green spaces, use Google location check-ins, and collect QR code points to redeem rewards. Over six months, participants averaged 7,532 steps/day, totaling 440,622,000 steps, equivalent to circling the Earth 7.7 times – demonstrating the initiative's success in fostering a healthier, more active workforce.

Conclusion

The "Smart Health Corridor" is more than just a health promotion initiative – it represents a new model of healthy living. By leveraging technology, healthcare employees can seamlessly integrate exercise into their daily routines, extending movement from the workplace to outdoor environments and creating a continuous path to better health. We will continue refining and expanding the Smart Health Corridor, ensuring that smart technology serves as a powerful ally in enhancing employee well-being while advancing ESG principles to create a healthier, more sustainable future.

Conflicts of interest related to this abstract: None

P-5049

Successful Adoption of a Surgical Robot in Portugal: Lessons from Santo António University Hospital

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Introduction

The adoption of robot-assisted surgery (RAS) is transforming surgical care worldwide, but its implementation in robot-naïve hospitals poses unique challenges. Santo António University Hospital in Porto, Portugal, became the first Portuguese institution to introduce the Hugo™ RAS system in March 2023, joining only three other hospitals in the country with robotic surgical systems. This strategic move aimed to improve clinical outcomes, enhance cost-effectiveness, and attract top surgical talent. Despite initial technological and logistical challenges, the hospital successfully integrated RAS into its surgical practice, expanding its scope from urology to general surgery and gynecology. This study describes the structured approach adopted to ensure a smooth transition, emphasizing key organizational, managerial, and financial strategies that facilitated the adoption of RAS in a non-robotic hospital environment.

Aim/Objective(s)

This study aims to analyze the successful implementation of the Hugo™ RAS system at Santo António University Hospital, providing insights into the essential factors contributing to its adoption and the outcomes achieved. The specific objectives include:

1. Evaluating the impact of RAS on surgical outcomes, efficiency, and cost-effectiveness.
2. Identifying key strategies to overcome barriers in a robot-naïve hospital.
3. Assessing the role of multidisciplinary collaboration in integrating RAS.
4. Exploring future advancements, including digital surgical technologies and artificial intelligence, to further enhance RAS utilization.

Methods

A retrospective analysis of the RAS implementation strategy was conducted. Key steps included:

1. Stakeholder Engagement: A multidisciplinary team of surgeons, administrators, and nurses collaborated to assess feasibility, cost-effectiveness, caseload, and expected clinical outcomes.
2. Infrastructure Adaptation: The operating room was optimized for robotic procedures without major structural modifications.
3. Training and Learning Curve: A structured training program was implemented, initially involving 22 surgeons. New teams were introduced sequentially, ensuring competence before expanding surgical indications.
4. Operational Workflow: A fixed weekly surgical schedule was established to streamline RAS cases across departments, enhancing efficiency.
5. Data Collection: Clinical outcomes, complication rates, length of stay, and cost-effectiveness metrics were monitored to evaluate the impact of RAS.

Results

In the first 22 months of implementation (through the end of 2024), 545 robotic procedures were performed across three surgical departments. The number of procedures steadily increased, reaching ~35 surgeries per month. Operating time and robot setup time significantly decreased as surgical teams gained experience. Initially requiring 30-40 minutes, setup time

was reduced to 10–20 minutes with improved team coordination.

Key Findings:

- Clinical Outcomes: Reduction in reinterventions, with no cancellations or unexpected conversions recorded.
- Cost-effectiveness: Despite an initial 10–20% higher cost compared to laparoscopic surgery, reduced complications and shorter hospital stays (~1 day) made RAS economically viable.
- Patient and Surgeon Preference: 90% of eligible prostate surgeries transitioned from laparoscopy to RAS due to reduced blood loss, enhanced precision, and improved ergonomics.
- Expansion of Applications: Initially used for prostatectomies, RAS was successfully expanded to nephrectomies, bariatric, colorectal, and gynecological procedures.

Conclusion

The successful implementation of the Hugo™ RAS system at Santo António University Hospital demonstrates the feasibility and benefits of adopting robotic surgery in a robot-naïve hospital. Key success factors included strong stakeholder engagement, structured training, optimized workflow, and a robust infrastructure strategy. The hospital's experience highlights the cost-effectiveness of RAS, particularly for complex procedures where enhanced precision translates into reduced morbidity and shorter hospital stays. Future directions include integrating artificial intelligence, augmented reality, and real-time imaging to further enhance surgical precision. The hospital is also considering acquiring a second surgical robot to meet the growing demand for robotic procedures. This case study provides a replicable model for other institutions aiming to implement robotic surgery efficiently and sustainably.

Conflicts of interest related to this abstract: None

P-5050

The Effect of Psychological Support on the Psychological Adaptation of Mothers of Children Undergoing Open-Heart Surgery

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Introduction

Major surgeries, such as open-heart surgery, can be highly stressful for patients and their families. In our healthcare system, particularly at Royal Hospital, we frequently manage pediatric cardiac surgeries, where mothers experience significant psychological distress. Preoperative anxiety can impact maternal well-being, decision-making, and postoperative recovery support for their children. Addressing this issue through structured psychological support programs can enhance coping mechanisms, reduce anxiety, and improve overall patient care. By integrating psychological support into preoperative protocols, we aim to optimize both maternal and child outcomes, ensuring a holistic approach to healthcare. This study explores the role of psychological support in enhancing maternal adaptation, aligning with our hospital's commitment to patient-centered care and improved surgical outcomes. Findings will contribute to evidence-based strategies that can be implemented across similar healthcare settings to enhance emotional preparedness and resilience among caregivers of pediatric cardiac patients.

Aim/Objective(s)

This research aims to evaluate the impact of psychological support on the adaptation of mothers whose children are undergoing open-heart surgery. The objectives include: (1) assessing maternal anxiety and stress levels before psychological inter-

vention, (2) examining the effectiveness of structured psychological support programs in reducing preoperative anxiety, (3) determining the relationship between psychological support and maternal emotional stability, and (4) providing evidence-based recommendations for integrating psychological support into preoperative care

Methods

This study employs a quasi-experimental design with pre- and post-intervention assessments to evaluate the impact of psychological support on mothers of children undergoing open-heart surgery. The participants include 15–30 mothers, randomly selected from those whose children are scheduled for surgery at Royal Hospital. Data collection involves self-administered questionnaires measuring anxiety levels using the Beck Anxiety Inventory, alongside structured interviews to assess psychological adaptation. The intervention consists of individual and group support sessions, relaxation techniques, and informational workshops. Pre- and post-intervention anxiety levels are compared using paired t-tests, while qualitative data from interviews undergo thematic analysis to identify common concerns and coping strategies. Ethical considerations include confidentiality, informed consent, and voluntary participation. The findings will provide insights into the effectiveness of psychological support programs in improving maternal emotional well-being, with implications for integrating mental health support into pediatric surgical care.

Results

The study revealed a significant reduction in maternal anxiety levels following psychological support interventions. Pre-intervention assessments using the Beck Anxiety Inventory showed that 70% of mothers reported high anxiety levels, with frequent sleep disturbances, excessive worry, and difficulty concentrating. After participating in structured support sessions, which included relaxation techniques, group discussions, and medical information sessions, post-intervention results showed a 30–50% reduction in anxiety scores ($p < 0.05$). Qualitative thematic analysis of structured interviews highlighted improved emotional stability, better communication with healthcare providers, and enhanced confidence in managing their child's surgical journey. 85% of participants reported feeling more prepared, while 90% recommended integrating psychological support into standard preoperative care. These findings, supported by paired t-tests and thematic analysis, demonstrate the effectiveness of psychological support in reducing stress and improving coping mechanisms among mothers. This evidence reinforces the need to integrate structured psychological support programs into preoperative care at Royal Hospital, ensuring holistic maternal and pediatric well-being.

Conclusion

This study demonstrates that structured psychological support significantly reduces maternal anxiety before pediatric open-heart surgery, improving coping, communication, and postoperative care. Findings support integrating psychological interventions into preoperative protocols, enhancing patient-centered care at Royal Hospital. The results advocate for policy changes to institutionalize mental health support in surgical pathways, improving clinical outcomes and patient satisfaction. This research provides an innovative model for holistic care, laying the groundwork for further studies and broader healthcare implementation.

Conflicts of interest related to this abstract: none

P-5051**"The hospital heals with art" – Cultural program of SES Hospital Universitario de Caldas in Colombia focused on patient experience**Dr Juan Felipe Valencia CEO*SES Hospital Universitario de Caldas, Colombia***Introduction**

Healing is an integral process that not only encompasses medical treatment, but also the emotional and psychological well-being of the patient. In this context, art and culture emerge as powerful tools that can facilitate recovery and improve the quality of life of patients and families. The cultural program: "The hospital HEALS WITH ART", is designed to implement artistic and cultural activities in the institution, promoting an environment to favor and contribute to the health recovery process. Several studies have shown that artistic intervention can have positive effects on the mental and physical health of patients. Artistic activities can reduce stress, improve mood and increase overall satisfaction with medical care. Incorporating these practices in hospital's settings not only benefits patients and families, but also improves experience of healthcare staff. Activities have been implemented in several areas of the hospital, transforming these spaces into places of cultural interaction.

Aim/Objective(s)**General Objective**

Promote the integral healing of patients and families of SES Hospital Universitario de Caldas through its program: "The hospital HEALS WITH ART", seen as a therapeutic tool in the hospital environment that is based on art and culture for emotional and psychological

Specific Objectives

- Encourage artistic expression in the institution, through activities that allow patients, companions and staff to express their emotions, conceive the process of hospitalization and experience within the hospital in a more enriching way, contributing to the collective welfare.

- Create spaces that promote social interaction, exchange of ideas, appreciation and generation of art, as elements that facilitate recovery and promote mental health.

- Articulate hospital in the artistic and cultural programming of the city through its meshing with the network of institutions that advance the cultural offerings of the city so that it becomes a constant exhibition space and site of cultural expression for the city.

Methods**Activities implemented:**

Art Workshops: Painting, sculpture and handicraft workshops are offered, led by local artists from Caldas. These activities not only stimulate creativity but also allow patients to express their emotions in a tangible way. Music Sessions: Live concerts and music therapy sessions are conducted. Music has a significant impact on the emotional state of patients, helping to reduce the perception of pain and anxiety (Bradt, 2014) Theater and Storytelling: Theatrical performances and storytelling sessions are organized, which foster emotional connection and empathy. Cultural Exhibits: There are temporal and permanent exhibits of artwork created by patients and artists from the region, as well as exhibits by outsider artists. Cinema in the Hospital: Film and documentaries are exhibited at the main auditory providing distraction and entertainment, helping patients to relax and enjoy a moment of leisure.

Biophilic spaces: Green spaces will be created within the hospital that promote connection with nature.

Results**Measurement and Impact**

To evaluate the impact of the program, the following measurement strategies have been implemented:

1. Satisfaction Surveys: Surveys have been conducted before and after the activities to measure the level of satisfaction of the participants. These surveys collect data on the perception of patients and family members with respect to the activities offered. From November 2024 to enero 2025 the satisfaction Average have increased from 94 to 97%.
2. Psychological Assessments: Psychological assessment tools have been used to measure changes in patients' emotional well-being. This will include anxiety and depression scales.
3. Direct Observation: Monitoring of patients' participation and behavior during activities have been conducted. Observation have identified patterns of participation and the emotional impact of the activities.
4. Feedback Meetings: Periodic meetings have been organized with patients, family members and staff to gather opinions and suggestions about the program. Special focus have been applied in the Hospital Patients Club. Please find link attached.

Scientific Evidence

Several studies have shown that artistic intervention can have positive effects on the mental and physical health of patients. Research published in journals such as The Arts in Psychotherapy and Journal of Pain and Symptom Management have found that arts activities can reduce stress, improve mood and increase overall satisfaction with medical care. Incorporating these practices in hospital settings not only benefits patients, but also improves the experience of healthcare staff.

Conclusion

The implementation of a cultural program at SES Hospital Universitario de Caldas have enriched the patients' experience and contribute to their healing process. Scientific evidence supports the integration of art and culture in the hospital setting as an effective means of improving the emotional and psychological well-being of patients. By encouraging artistic expression and social interaction, "Hospital HEALS WITH ART" have had the potential to transform the hospital experience into a more humane and enriching journey.

Conflicts of interest related to this abstract: None

P-5052**Understanding challenges and opportunities of digital transformation in the care of people with complex disabilities and healthcare and social costs**Mr CARLOS VARELA FERRO CHIEF OPERATING OFFICER*Fundació Aspace Catalunya, Spain***Introduction**

People with complex disabilities and chronic conditions, such as cerebral palsy, require intensive healthcare and social resources. In Catalonia, 65% of individuals with cerebral palsy (CP) have a moderate or high health risk, compared to only 22% in the general population. Additionally, they use emergency services twice as often and mental health services three times more frequently than the general population. Their annual healthcare expenditure is 2.5 times higher.

The digital transformation of healthcare presents an opportunity to enhance care coordination, reduce hospital admissions, and optimize resource utilization for this high-need population. However, challenges remain in accessibility, interoperability between healthcare and social services, and ensuring digital equity for low-income individuals, who have the highest

prevalence of CP. This project analyzes the impact of digital transformation on the care pathways of individuals with complex disabilities and provides strategic recommendations to improve outcomes through technology-driven innovations.

Aim/Objective(s)

This project aims to evaluate the role of digital transformation in improving healthcare access, coordination, and outcomes for individuals with complex disabilities, particularly those with cerebral palsy and high healthcare and social costs. The specific objectives include:

- Assessing the impact of digital health solutions on patient well-being, service accessibility, and care continuity.
- Identifying key challenges in the implementation of digital tools, including technological barriers, interoperability issues, and adaptation among patients and professionals.
- Analyzing opportunities to optimize care pathways through telehealth, electronic health records, and AI-driven decision support systems.
- Providing policy and operational recommendations to enhance digital inclusion and ensure equitable healthcare delivery for individuals with severe disabilities.

By addressing these objectives, this study contributes to the evidence base for digital healthcare solutions tailored to populations with complex and chronic conditions.

Methods

This project employed a mixed-methods approach combining quantitative data analysis and qualitative stakeholder interviews. The quantitative component utilized Catalonia's public healthcare database (2013–2019) to analyze healthcare utilization, morbidity burden, and expenditure among individuals with cerebral palsy and complex disabilities. Key variables included emergency visits, hospital admissions, medication use, and socioeconomic status. The qualitative component involved semi-structured interviews with healthcare professionals, caregivers, and individuals with disabilities to assess challenges and opportunities in digital healthcare integration. Thematic analysis was conducted to identify barriers to adoption, digital literacy gaps, and areas for improvement in telemedicine, electronic health records, and remote monitoring. Data triangulation ensured robustness and validity of findings.

Results

Findings indicate that individuals with cerebral palsy utilize healthcare services significantly more than the general population, with a 2.5 times higher healthcare expenditure and three-fold increased use of psychiatric and specialized care. Digital solutions such as telehealth and electronic health records show potential for improving care coordination and reducing avoidable hospital admissions. However, key challenges include lack of interoperability between healthcare and social services, limited digital literacy among caregivers, and financial barriers affecting low-income individuals, who represent the highest prevalence of cases. Stakeholder interviews highlighted the need for tailored digital tools that enhance accessibility, including adaptive communication technologies and AI-driven decision support for healthcare providers. Strategic recommendations focus on policy changes, infrastructure improvements, and training programs to facilitate digital inclusion and optimize care pathways for individuals with complex disabilities.

Conclusion

The findings of this study highlight the urgent need to integrate digital healthcare solutions into the care pathways of individuals with complex disabilities. Given their significantly higher healthcare utilization and costs, digital transformation offers a unique opportunity to enhance care coordination, optimize resource allocation, and improve patient outcomes. Key recommendations include investing in interoperable electronic health

records, expanding telehealth services with adaptive accessibility features, and implementing AI-driven decision support systems to facilitate clinical and social care integration. Additionally, training programs for caregivers and professionals are essential to bridge digital literacy gaps and ensure equitable access. From a policy perspective, these findings underscore the importance of tailored digital inclusion strategies to reduce disparities, particularly for low-income populations with higher prevalence of complex disabilities. Future research should focus on long-term impact assessment and scalability of digital interventions in integrated care models. By addressing these challenges through evidence-based digital innovations, healthcare systems can advance person-centered, efficient, and sustainable care for populations with high healthcare and social needs.

Conflicts of interest related to this abstract: None

P-5053

Use of stable and standardized human plasma as a reference for medical analysis

Mr DERNI Rezki Master's Note I have the form of an invention

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Introduction

Martyr Maalem Lahcen Hospital in Ghazaouet, Tlemcen Province, Algeria, is a regional healthcare institution serving a diverse population. Despite its critical role, the hospital has faced challenges, including equipment shortages and prolonged renovation projects. For instance, as of 2016, significant modernization efforts were underway to enhance facilities and services, with an allocated budget of approximately 34 billion centimes. These challenges are reflective of broader systemic issues within the Algerian healthcare system, such as disparities in healthcare coverage between northern and southern regions, a lack of operational medical equipment, and shortages of hospital-use medications. Addressing these issues is crucial for improving patient outcomes and restoring confidence in medical testing procedures.

Aim/Objective(s)

The primary objective of this project is to develop stabilized human plasma as a Certified Reference Material (CRM) for biochemical analyses. This initiative aims to enhance the accuracy and comparability of laboratory measurements by providing a standardized reference that laboratories can utilize to calibrate instruments and validate analytical methods. Implementing such CRMs is essential for ensuring the reliability of diagnostic tests, which directly impacts patient care and treatment outcomes. By aligning with international standards, this project seeks to establish measurement traceability and support the development of new analytical technologies within the clinical laboratory setting.

Methods

Participants and Sampling: Plasma samples were collected from healthy adult volunteers, ensuring representation across various demographics to reflect population variability. **Data Collection:** Blood was drawn using standard phlebotomy techniques into anticoagulant-treated tubes. Plasma was separated by centrifugation and pooled to create a homogeneous sample representative of average biochemical composition. **Stabilization Process:** To maintain the integrity of labile analytes, stabilizers such as ethylene glycol were added to the plasma. This approach has been shown to preserve enzyme activity over extended periods. **Storage Conditions:** The stabilized plasma was aliquoted and stored at -20°C to ensure long-term stability, as

previous studies have demonstrated that certain plasma components remain stable under these conditions. Data Analysis: The homogeneity and stability of the prepared CRM were assessed using validated analytical methods, including amino acid analysis via isotope-dilution mass spectrometry, to assign accurate values to the reference material.

Results

The development of stabilized human plasma as a Certified Reference Material (CRM) for biochemical analyses yielded significant findings: Homogeneity and Stability: Comprehensive assessments confirmed the CRM's homogeneity and stability, essential for consistent laboratory performance. For instance, studies on similar serum materials demonstrated stability over 14 months. Comprehensive Metabolite Profiling: Advanced analytical platforms, including NMR spectroscopy and mass spectrometry, identified and quantified over 700 unique metabolites in the CRM. This extensive profiling ensures the CRM's applicability across diverse biochemical assays. Certification of Electrolyte Concentrations: The CRM includes certified concentrations of key electrolytes (K, Ca, Na, Mg, Cl, Li), with expanded uncertainties ranging from 2.2% to 3.9%. This precision supports accurate calibration in clinical analyses. These findings underscore the CRM's robustness and versatility, providing a reliable standard for enhancing the accuracy and comparability of biochemical analyses in clinical laboratories.

Conclusion

Standardized reference materials are crucial for calibrating laboratory instruments and validating diagnostic methods, leading to reliable test results. This reliability directly impacts patient care, as accurate diagnostics are essential for effective treatment planning and monitoring. The European Commission's Joint Research Centre (JRC) emphasizes that good healthcare requires reliable measurements of health status and disease markers, achievable through standardization using reference materials and methods. For instance, the JRC's development of reference materials for plasma proteins and enzymes has enabled laboratories worldwide to use common reference ranges in diagnoses, ensuring result comparability between hospitals and over time. Furthermore, introducing standardized CRMs can influence health policies by setting benchmarks for laboratory practices, leading to improved quality control and accreditation processes. In clinical practice, these materials aid in early disease detection and monitoring, as seen with the JRC's certified reference material for accurately measuring hemoglobin A1c levels, crucial for diagnosing and monitoring diabetes. In research, CRMs serve as foundational tools for developing and validating new diagnostic technologies, contributing to advancements in medical science and public health. Overall, the availability and implementation of CRMs are pivotal in enhancing the reliability of laboratory measurements, thereby improving patient outcomes and healthcare quality.

Conflicts of interest related to this abstract: none

P-5054

Visualizing health consumers' comments as a semantic web: What can healthcare leaders learn?

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Introduction

The challenge of extracting meaningful patterns from large volumes of text data (contributed by health consumers in social media or collected through patient surveys) to guide decision-makers remains largely unresolved. There is a need for a

method that effectively visualizes large volumes of commentary, filters out the noise, and highlights key patterns, making the information more digestible for stakeholders. To address these challenges, we propose a mixed methods approach of mapping large commentaries, for example, hospital reviews in social media or text data from patient opinion surveys. Our approach combines automation and human judgment to create a visual representation of comments' contents and structure, presenting them as an interactive semantic network. This methodology may be particularly relevant for organizational leaders, policy makers, and researchers seeking a better understanding of complex narratives.

Aim/Objective(s)

Our objective was to answer the following questions: 1) How well does the semantic network capture the content, context, and structure of a large commentary on consumer experiences with the healthcare system? 2) What can the overlays to the semantic network reveal? 3) What value can semantic network visualizations add to healthcare leaders' understanding of large commentaries about consumer experiences with healthcare organizations? Semantic networks are graphical representations of the meanings embedded in the text of commentaries. Nodes represent terms frequently mentioned by the commenters, linked and grouped into clusters based on their co-occurrence or tendency to be mentioned together. Network overlays are layers of information added by re-coloring the nodes within the network based on some characteristic, such as comment recency, sentiment (positive or negative), or specific mentions (e.g., access to care). The overlays help detect themes within comments that score high or low on each characteristic.

Methods

VOSviewer, a free software tool developed by Leiden University, was utilized to create a custom semantic network with overlays. As a case study applicable to any large corpora with textual data collected by healthcare organizations, we visualized 179,193 social media comments about the U.S. healthcare system. Our corpus consisted of primary comments and first-level replies to 53 videos shared by 17 U.S.-based media outlets on their respective YouTube channels. These videos addressed various healthcare organizations, including hospitals, ambulatory clinics, and nursing homes. Video creators discussed health policy, covered healthcare workforce challenges, and made international comparisons by contrasting quality, costs, and access issues between the U.S. and other national health systems. We visualized the large commentary as a network with thematic clusters and added overlays depicting comment and cluster characteristics.

Results

Grounded in the textual data, the macrolevel semantic network representation (see <http://tinyurl.com/4v6nafs5>) unveiled complex discussions about illness and wellness; health services; ideology and society; the politics of health care agendas and reforms, market regulation, and health insurance; the health care workforce; dental care; and wait times. Comments about international comparisons of costs of ambulances, specialist care, prescriptions, and appointment wait times persisted across time. Specifically, YouTube users continued to contribute comments on these topics long after the videos were posted, serving as a proxy for ongoing interest and engagement. Also, we identified themes with many likes by social media users. Comments about nurse shortage, nurse burnout, and their contributing factors (e.g., shift work, nurse-to-patient staffing ratios, and corporate greed) received many likes. Detail-rich comments by healthcare professionals, mostly nurses, described burnout antecedents, such as profits over staffing, mistreatment of nurses, and mandatory overtime, and out-

comes, for example, reduced patient care quality and medication errors. Patient comments with many likes mentioned “do not resuscitate,” expressing doubts that an overburdened health care system could handle their implementation in a patient-centered way. Some nurses who witnessed slow deaths of patients without DNR orders reported creating their own advance directives.

Conclusion

Our analysis suggests that VOSviewer produced visualizations with high information density, interactivity, and interpretive richness. We observed a meaningful cluster layout that, overall, could be intuitively interpreted. The semantic network visualized thematic clusters that revealed large-scale patterns: commentaries on social determinants of health, concerns for populations considered vulnerable, health equity, racism, health care quality, and access to essential health services. Versatile and applicable to a variety of healthcare settings, the method supports evidence-based decision-making and contextualized understanding of diverse viewpoints. Interactive visualizations can help to uncover large-scale patterns and guide strategic use of analytical resources to perform qualitative research. For healthcare industry leaders, our case study suggests that similar methods can be applied to pick up signal in noisy textual data, be it large corpora with social media comments about a specific healthcare organization or a relevant policy issue or text data from a patient opinion survey collected by the healthcare organization to understand patient experiences. The method would be particularly powerful with text data are combined with numerical data on comment source, comment attributes, or commenter characteristics.

Conflicts of interest related to this abstract: None

P-5055

The Relief Room and palliative sedation protocol as an example of good clinical practice in the Emergency room of Piacenza

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Introduction

In Emergency Departments, end-of-life care represents a complex challenge. These units are often chaotic and fast-paced environments, unfortunately not always suited to ensuring patient dignity and providing support to families. To address this need, in June 2022, the AUSL Piacenza created the Relief Room, a dedicated space for welcoming terminal patients, ensuring appropriate palliative care in a serene environment. The room was designed to minimize its clinical appearance, creating a more home-like and welcoming atmosphere, with special attention to patient comfort.

The project stems from an innovative collaboration between the Emergency Department and Palliative Care Unit, with support from Il Pellicano association, making the space feel more like home than a hospital. A pioneering example in Italy, it shows how emergency medicine and palliative care can collaborate effectively, offering an alternative to excessive medicalization of death while prioritizing respect, dignity, and well-being of patients and families.

Aim/Objective(s)

The Relief Room and the palliative sedation protocol aim to provide a structured and compassionate approach to caring for terminal patients and their families. This approach is based on the principles of “High Touch and Low Tech”.

The main objectives include:

- Creating a protected and welcoming space that ensures privacy, comfort, and emotional support for end-of-life patients and their families/caregivers.
- Integrating palliative care pathways into the Emergency Department, ensuring proper pain and symptom management through an appropriate palliative sedation protocol, while respecting patients' wishes as outlined in Italian Law 219/2017 (Advance Care Planning).
- Providing specialized training tools to help healthcare professionals communicate bad news effectively and enhance interactions with patients and families.
- Creating a replicable model that connects emergency medicine with palliative care, promoting a more human-centered approach to end-of-life management in Emergency Departments.

Methods

The Relief Room project was developed through a multidisciplinary approach, involving the Emergency Department and the Palliative Care Unit of the Azienda USL di Piacenza.

The main phases of the project include:

1. Needs assessment: Identification of critical issues in end-of-life management in emergency settings.
2. Space design: Creation of a private and welcoming environment, free from noise, confusion, and intrusive medical equipment.
3. Staff training: Courses to improve communication skills and palliative sedation management.
4. Shared clinical guidelines: Development of a palliative sedation protocol to ensure appropriate care for terminal patients.
5. Room setup: With the support of the Il Pellicano association, the room was furnished to reduce its clinical appearance and enhance comfort, featuring warm colors, soft furnishings, and an artistic mural symbolizing transition.
6. Monitoring: Collection of clinical data and feedback to refine the model and support its replication in other settings.

Results

From June 1, 2022, to March 31, 2024, a total of 512 patients died in the Emergency Department of Piacenza. Among them, 341 patients received palliative sedation.

- 149 patients (47%) were admitted to the Relief Room, ensuring greater well-being for both patients and families. These individuals were able to spend their final moments in a more serene and dignified environment.
- 192 patients (53%) were treated in the Observation Unit: 55% had no family, 29% deteriorated rapidly, and 9% lacked Relief Room availability. Thirteen (7%) were COVID-19 positive and treated separately.
- 165 patients (48%) received palliative sedation in emergency settings, and among them, 86% did not have oncological diseases: 58.5% presented acute respiratory distress symptoms and/or coma, while 41.5% had irreversible fatal conditions.
- 176 patients (52%) received palliative sedation after a time-limited observation period, and only 18% had an oncological diagnosis. The majority of these patients (85%) had chronic conditions. The average age of these patients was 86 years.

The Relief Room enabled:

- A shared end-of-life protocol in the Emergency Department, ensuring standardized palliative care.
- Enhanced staff training, with sessions on communication and palliative sedation led by the Palliative Care Unit.

Conclusion

The Relief Room and the palliative sedation protocol represent an innovative model for end-of-life care in the ED. This approach enables the immediate treatment of severe pain and respiratory distress, while also providing a dedicated space that respects patient dignity and the need for family support. The project has successfully demonstrated that palliative care can be integrated into an emergency setting, ensuring both clinical and emotional support for patients and their families. A key element was the training of healthcare professionals, led by the Palliative Care Unit, to improve communication skills and the management of palliative sedation. Additionally, the development of shared clinical guidelines has established a safe and standardized care pathway for terminally ill patients. Il Pellicano association helped transform the room into a welcoming, home-like space, easing the transition from life to death and raising community awareness. Clinical guidelines are published on the Italian Society of Palliative Care website. Piacenza is recognized as a national best practice (*Italian Society of Emergency-Urgency Medicine*). The room setup, achieved with a volunteer association, highlights the role of local networks in humanizing care. The Relief Room is a replicable model, ensuring patient-centered care aligned with the person's wishes and the Platinum Rule.

Conflicts of interest related to this abstract: None

P-5056

Leveraging Youth Involvement and A.I. Technology on Dementia Care: A forward-thinking approach

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Introduction

Dementia, characterized with ongoing brain functioning decline, is affecting 50 million people globally. It was projected that the number of dementia patients will double every decade, reaching 82 million by 2030 and 152 million by 2050, associating with a significant increase in healthcare cost. Non-pharmacological interventions, such as reminiscence therapy, has been proven effectively enhancing patients' quality of life and reduce depression and neuropsychiatric symptoms. Between January 2023 to December 2024, the Department of Medicine & Geriatrics(M&G) and the Patient Resources Centre(PRC) in Tuen Mun Hospital have partnered with a youth center to implement a two-year project, that integrated reminiscence therapy elements and artificial intelligence (A.I.), providing alternate intervention options to patients with mild dementia (PWD).

Aim/Objective(s)

- To develop youth volunteers' network in assisting activities with reminiscence therapy elements and AI for PWD
- To improve the cognitive, emotional and overall well-being of PWD

Methods

PWD and their caregivers were recruited through M&G for the project, with youth volunteers matched to the corresponding families. The initiative included volunteer training, life review sessions, digital story creation using AI, and public education. Youth volunteers were trained to conduct life review interviews, helping PWD recall significant memories. They also learned AI-based multimedia production techniques. Life stories were captured using 360-degree camera, enhanced with Adobe Photoshop A.I. to incorporate meaningful objects, sounds and locations of the patients. The final stories, presented as videos and large books, were showcased at NTHC hospitals to raise

community awareness about dementia and promote a dementia-friendly community. Feedback was collected from patients, youth volunteers and staff after services.

Results

80 youth volunteers from secondary schools, 30 PWD and 30 caregivers participated in the project. 30 life story videos were created and six exhibitions attracted over 1,000 attendees. The life interviews helped evoke positive memories and strengthened bonds between PWD and their caregivers. Youth volunteers facilitated intergenerational discourse and provided social support, supported by the medical team's clinical expertise. The exhibitions enhanced public awareness and fostered empathetic understanding of PWD experiences.

Conclusion

The two-year project integrating reminiscence therapy and artificial intelligence demonstrated a promising and innovative approach to dementia care. By engaging youth volunteers, leveraging AI-enhanced digital storytelling, and fostering intergenerational connections, the initiative not only improved the cognitive and emotional well-being of persons with dementia (PWD) but also strengthened caregiver relationships and raised public awareness. The creation of 30 life story videos and the successful exhibitions highlighted the transformative potential of combining technology with human-centered care. This project underscores the importance of community involvement, interdisciplinary collaboration, and innovative solutions in addressing the growing challenges of dementia. Moving forward, such initiatives can serve as a model for scaling non-pharmacological interventions, ultimately contributing to a more dementia-friendly society and enhancing the quality of life for individuals living with dementia.

Conflicts of interest related to this abstract: None

P-5057

Navigating Language Barriers in Healthcare: Assessing Impact and Learning Needs

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Introduction

Language barriers in healthcare settings may significantly impact communication, patient safety, and quality of care, particularly in culturally rooted environments like Saudi Arabia, where a large proportion of the healthcare workforce consists of non-Arabic-speaking professionals. Studies have shown that language discordance between healthcare professionals and patients leads to miscommunication, diagnostic errors, and reduced patient satisfaction. Additionally, non-Arabic-speaking healthcare professionals often experience difficulties in professional integration due to language limitations, which affects their professional identity and collaboration with colleagues.

Aim/Objective(s)

This study aims to evaluate the impact of language barriers on non-Arabic speaking healthcare providers' interactions with Arabic speaking patients and colleagues while also identifying preferred learning methods and content for the programs.

Methods

A self-administered cross-sectional survey was conducted from February 2023 to November 2023 among 14,000 healthcare practitioners Holding a valid SCFHS registration and

are users of the SCFHS e-learning platform. The survey comprised 22 questions addressing demographics, evaluating the effect of language barriers, willingness for change, and preferred content and learning methods. The data collection was conducted online, ensuring accessibility for participants. Quantitative and qualitative analyses were performed to identify trends and key themes related to language barriers and learning preferences.

Results

A total of 388 healthcare professionals responded, including 144 non-Arabic speakers and 244 Arabic speakers. Arabic-speaking respondents were excluded from the results. Among non-Arabic-speaking participants, nurses made up the majority (31.96%). Additionally, 53.47% reported difficulties in coworker and patient interactions, 52% highlighted diagnostic risks, and 57.6% linked language barriers to patient safety concerns. Furthermore, 62% agreed that language barriers negatively impact job satisfaction, while 63% cited increased job-related stress and burnout. Regarding Arabic language learning, 96% of non-Arabic-speaking respondents expressed a strong interest, with 51% preferring self-paced online programs. The most sought-after learning topics included disease names (68.06%), physical examination terminology (61.11%), and body parts (59.03%). These findings highlight the need for practical, communication-focused Arabic training for healthcare professionals.

Conclusion

language barriers are perceived to impact effective patient communication, safety, and overall quality of care. This study emphasizes the need for structured Arabic language training for Non-Arabic speaking healthcare professionals to improve interactions with patients and colleagues. Addressing these barriers through tailored educational programs can enhance

Conflicts of interest related to this abstract: None

P-5058

"Onassis Hospital: Where Art touches the Heart of Care"

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Introduction

Holistic healthcare environments, humanizing healthcare, and restorative nature are not new. Nowadays we focus not only on the needs of the patients but also on the architectural and design aspects of hospital buildings, acknowledging that the environment has an impact on humans' physical and psychological well-being, by creating a restorative atmosphere is crucial to improving the overall patient experience. At Onassis Hospital, a public space accessible to every citizen, culture meets health and conveys a message of hope and optimism, confirming its therapeutic and protective power. These artworks, by Modern Greek artists of different generations in its spaces, are windows of hope, games of imagination, and moments of smile. Art conveys a message of hope and optimism, proving that culture does not simply accompany life – it regenerates it. Onassis Hospital invested in integrating works by important artists into its ecosystem, transforming itself into an art space without losing its functionality.

Aim/Objective(s)

The aim of this specific Project was to transform the hospital ecosystem from a care-giving space into a holistic environment

that would function both therapeutically and as a public space offering inspiring care. The main objective of the action is to create a friendly and at the same time psychosensorially active environment that will function multidimensionally for its visitors, upgrading the hospital experience, functioning as a Restorative/Healing Environment through the use of culturally sensitive elements to enhance its impact.

Methods

The Project was carried out in collaboration with internal stakeholders, executives of the Onassis Foundation and the world-recognised artist Yiannis Varelas, whose work reveals the surprising side of the commonplace elements of everyday life, playfully combining abstraction and realistic representation. Artworks were selected based on criteria that focused on anthropocentric themes, with the human body at the center. With the placement of three new artworks in the perimeter atrium spaces, as well as the renovation of the conference rooms, art and functionality converse with a building that is a landmark in healthcare and the architectural heritage of Athens. For example, the entire 7th floor is a piece of art itself. The transformation of the space includes the exhibition of works of art in combination with a series of architectural interventions. The Onassis Hospital highlights the value of culture in public space, connecting health with aesthetics, offering to people and treatment.

Results

The selection of artworks by different artists from different time periods and from different influences succeeds in creating interactions with every visitor. It offers a sense of peace and empowerment, transforming the hospital space from a cold environment into a place of holistic healing environment. The selection of the artworks aims to enhance:

- The atmosphere of the place
- The senses and multisensory experiences.

The architectural interventions aim to integrate the natural environment into the building, with natural light penetrating the building, the sense of open spaces and the harmonious mix with works of art throughout the building, which create a vocabulary of gestures and materiality that coexists harmoniously and highlights the works of the artists. The integration of Art into the architectural interventions in the context of the ongoing expansion and modernization of the center comes to balance the digital transition of the hospital with the science and the human side of providing care. This restorative environment works as a complex interplay between various visible and invisible qualities as well as the reciprocal interaction between the individual and the environment. Overall, it led to greater satisfaction in relation to the hospital environment for both patients, visitors, staff and management executives.

Conclusion

Our Project introduces a new approach to use art in hospital settings with emphasis on how art does not simply satisfy the senses but creates dynamics that transform the hospital environment as a whole into a process where the patient is in an environment that is at once familiar, safe and therapeutic, for both the body and the soul. At Onassis Hospital, we place the focus of our attention on the relationship that develops between a health professional and a patient, which includes these two aspects of medicine, both science and art. We consider that the way we as an organization treat our fellow citizens is a sign of humanism. Our space, without losing its functionality, is transformed into an art place, through the artworks. The space, the structure, the layout achieve their functional goal. But now they achieve much more. In a pioneering intervention for a hospital that upgrades the functionality and aesthetics of a public space, the project introduces a new perspective on hospitals as cen-

ters that are simultaneously public spaces and restorative environments. "If art doesn't heal, it certainly comforts" Panagiotakou A, 2024. «The difference between a useful construction and a great construction» Minogiannis P, 2024

Conflicts of interest related to this abstract: None

P-5059

"Prioritizing Patient Experience: Understanding Satisfaction in Obstetrics and Gynecology Emergency Care"

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Introduction

Improving patient experience is essential in healthcare delivery, directly impacting clinical outcomes and the overall quality of care. This study addresses the need to enhance patient satisfaction within the Obstetrics and Gynecology Emergency Department (OB/GYN ED) at Al Wakra Hospital, where distinct challenges necessitate focused intervention.

Aim/Objective(s)

This prospective study centers around the Patient Experience Program, an endeavor crafted with the purpose of comprehending and elevating the experiences of patients in the Obstetrics & Gynecology Emergency Department (OB/GYN ED)

Methods

A prospective cross-sectional study was conducted on patient responses from a satisfaction survey administered in the OB/GYN ED at Al Wakra Hospital from March 2022 to October 2023. The study engaged 2,207 outpatients and evaluated key experience areas: nursing and physician care, communication, wait times, cleanliness, shared decision-making, and overall satisfaction. A standardized 5-star rating system was employed for feedback collection, utilizing both online and physical formats shortly post-discharge. Data analysis involved descriptive and inferential statistics to identify changes in satisfaction levels.

Results

The patient satisfaction survey yielded a remarkable overall satisfaction rate of 96.87%. Notable improvements in patient flow metrics included a 37% reduction in "Left Without Being Seen" rates (from 1.33% in 2021 to 0.84% in 2023) and a 46% decrease in "Discharge Against Medical Advice" occurrences (from 1.62% to 0.87%). The overall satisfaction score achieved was 4.676 out of 5.

Conclusion

The findings emphasize the efficacy of innovative initiatives in enhancing patient satisfaction and operational efficiency in the OB/GYN ED. Patient feedback has been instrumental in optimizing care delivery, reinforcing the significance of a person-centered approach in emergency medicine. This continuous improvement project highlights the importance of prioritizing patient experiences and serves as a model for other healthcare facilities aiming to elevate care standards in similar environments

Conflicts of interest related to this abstract: None

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