

How to fulfill residents' training needs and public service missions in outpatient general internal medicine?

An observational pilot study

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Summary

QUESTION UNDER STUDY/PRINCIPLES: Ambulatory care is a mandatory component of post-graduate training in general internal medicine. Academic outpatient clinics face challenges in training residents in terms of exposure to sufficient patient case-mix, diversity of clinical activities and continuity of care while fulfilling their mission to provide care to vulnerable populations. We report the development and evaluation of a new postgraduate curriculum in ambulatory care in Geneva, Switzerland, designed to overcome such challenges.

METHODS/DESCRIPTION: The content of learning activities was adapted to core competencies and learning objectives. In the new 2-year curriculum, residents had their working week divided into 2½ days of continuity clinic over two years, and 2½ days of 6 to 12 months rotations (e.g., walk-in clinics). Team work was consolidated through the creation of subunits including an attending physician, 1–2 senior residents during one year and 6– to 8 residents, who met in bi-monthly meetings with other health professionals.

RESULTS/EVALUATION: In both local and national surveys, residents and senior residents expressed an overall global satisfaction with the new curriculum. Nursing and administrative staff were less satisfied, because of reduced residents' time in each unit. Interprofessional meetings were highly appreciated for both patient care and team building. Management of residents' absences became more complex.

CONCLUSION: The new curriculum met its goals in gaining residents' satisfaction and in reinforcing interprofessional collaboration although management of human resources became more complex. It also gave insights into challenges to be addressed when disseminating a new curriculum, such as strong leadership, educational expertise and management skills and tools.

Key words: *post-graduate training; outpatient care; general internal medicine*

Introduction

Ambulatory care is a mandatory component of post-graduate training in general internal medicine, where residents learn outpatient management of acute and chronic diseases, prevention, health promotion and patient-centred care, with the opportunity to build longitudinal relationships with their patients [1, 2]. The outpatient setting is considered to be the place where patients now receive most of their acute, chronic and preventive care [3]. The shift of care from inpatient to outpatient settings observed in the last decade increased the importance and attractiveness of education in ambulatory practice, especially in the USA and Switzerland, where training traditionally focused on hospital settings [4, 5].

In Switzerland, residents are required to train for a minimum of 6 months in ambulatory medicine, generally after having spent 2 years in hospital settings, in order to obtain the new title of specialist in general internal medicine, formerly separated into general or internal medicine [6].

In Switzerland, most ambulatory training in general internal medicine still takes place in the outpatient clinics of academic medical centres for historical reasons. Vocational training in private medical practices started in the 1990's [7], and is highly valued by both trainees and trainers [8]: more than 95% of them reported that vocational training improved their knowledge and skills needed in primary care and more than 50% of trainees considered vocational training to better fit with their professional goals than hospital training [8]. However, limited financing and availability of training positions make it impossible to accommodate all candidates [9].

Academic medical centres experience three main challenges in training residents in ambulatory care. First, residents are exposed to a complex patient population in terms of medical and psychosocial issues, which may not be representative of the patients seen in private practices. In the USA, academic postgraduate training sites care for more vulnerable populations, such as Afro-Americans, Latinos, as well as Medicare or Medicaid patients [10]. Medical problems are often com-

plicated by poverty, illiteracy, mental illness and many other cultural, social and economic challenges [3]. The situation is similar in Switzerland, where academic outpatient clinics essentially care for vulnerable populations [11–13]. Such psychosocial complexity may prepare residents to face and cope with health disparities, but can also overwhelm them, while they are already struggling to learn the fundamentals of outpatient practice [3].

Second, the experience of continuity of care is often lacking in academic centres, where residents rotate usually for a year or less. One year is a short period of time to build up relationships with patients, to evaluate the impact of medical decisions and prescriptions on the course of patients' illnesses, and to discover different aspects of team work in chronic disease management. In addition, continuity of care appears to be particularly important for more vulnerable patients [14].

Third, during a training year in academic settings, residents may often be exclusively assigned to care for a specific type of patient population, such as elderly people, undocumented migrants, prisoners or patients with substance abuse, because it facilitates the organisation of care and team work within a unit. This may be a matter of concern, since residents' patient case mix may not be representative of patient populations that residents will care for once in private practice [15].

For these reasons, the Division of Primary Care Medicine of the Geneva University Hospitals decided in 2007 upon a reform of its postgraduate curriculum in outpatient general internal medicine that was implemented in October 2008.

In this paper, we report the development, implementation and evaluation of a postgraduate curriculum designed to respond to residents' training needs in terms of patient case mix, variety of relevant clinical activities and continuity of care, while allowing the division to continue to appropriately fulfill its commitment to vulnerable patients.

The new postgraduate curriculum

Setting

The Division of primary care medicine is part of the Department of Community Medicine, Primary Care and

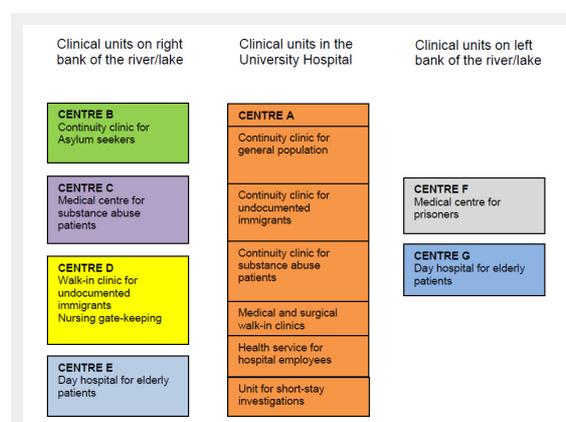


Figure 1

Medical sites and units belonging to the Division of Primary Care Medicine.

Emergency Medicine at the University Hospitals of Geneva, Switzerland. It is spread out over 7 geographically distinct medical sites over the city (fig. 1). However, most clinical activities are conducted in the main hospital building (fig. 1). Its mission consists in delivering medical care, in providing pre- and post-graduate training, and in conducting research in community-based clinics in Geneva, a canton of 450000 inhabitants. Each year, it provides 15000 scheduled medical consultations and 13000 consultations at its medical and surgical walk-in emergency clinics. It also trains 38 full time residents in ambulatory care. Its patient population includes the general population of Geneva and, more specifically, vulnerable populations such as asylum seekers, undocumented migrants, patients without insurance coverage, prisoners, frail elderly people bound to their homes, and patients with substance abuse. A previous study showed that 50% of the patients attending the primary care clinic were immigrants and that 40% did not speak French [16].

Prior curriculum: a rationale for change

Before 2008, many residents would typically work during a week for 4 days in a continuity clinic and one day in the emergency walk-in clinic during one year. Others would work during the whole week in a specific unit of the division, providing care to elderly people at home, prisoners or patients with substance abuse during the same year (fig. 2). As a result, some residents were exposed to a very specific profile of patients (e.g., young males in prison, middle-aged South American women in the clinic for undocumented patients, old and frail elderly in the elderly day hospital), while others were not experiencing continuity of care over an entire year. In parallel, nurses, dieticians and social workers would see patients at residents' request but, in some units, there were no regular interprofessional sessions planned to exchange information about patients and work progress.

Planning and development of the new postgraduate curriculum

The planning and development of the new curriculum was guided by two principles: continuity of care and exposure to a wide variety of patients and clinical activities.

The following steps were undertaken:

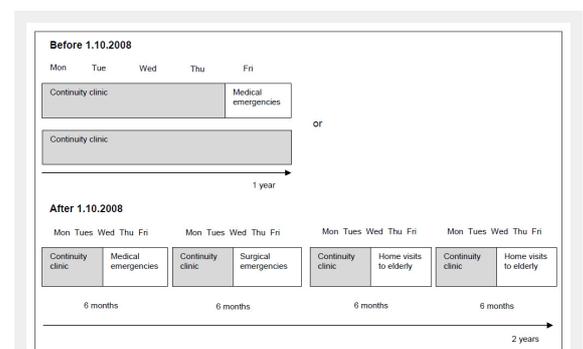


Figure 2

Model of a week organisation before and after the implementation of the new curriculum.

Definition of core competencies and learning objectives

Using a literature review [17–22], a group of senior residents from different clinical units defined, inside three dimensions (patient, self and environment), core competencies to be acquired during the two years of residency training in ambulatory care. They are summarised in table 1 and more detailed information on general and specific learning objectives for each clinical unit can be found on the primary care division's website [23]. These competencies and learning objectives were then reviewed by a panel of academic and non-academic general practitioners, in order to organize the content of the structured and non-structured learning activities of the curriculum. Structured training includes 5 weekly training hours required by the Swiss society of physicians (FMH) and non-structured learning activities refer to formal and informal supervision provided during clinical activities.

Supervision

Resident supervisions, implemented in 2007, were strengthened and consisted in: (1) 1 hour of supervision per half-week (protected time in the schedule) with the same supervisor, to discuss the clinical cases of the day; (2) direct observation of one consultation per month by the supervisor followed by 10 minutes of feedback; and (3) structured review of 5 medical files per month by the supervisor, with the use of a 14 item-checklist focusing on the following aspects: history taking and physical exam (adequate link between patient's symptoms and the problem list), appropriateness of diagnostic investigations, treatment and follow-up, appropriateness of preventive interventions, appropriateness of specialist referrals, documentation of allergy and medication intolerance, documentation of missed appointment, phone calls, etc...

Identification of compulsory and optional clinical activities

In parallel, a mixed group of senior residents and residents regularly met during 6 months in 2007 to identify and prioritize clinical activities taking place in the division of primary care medicine, according to the clinical fields in which residents were expected to become skilled and professionally competent. The clinical activities taking place in the following settings were considered to be compulsory: continuity clinics, surgical and medical walk-in emergencies, home visits to elderly people, and substance abuse consultations. Clinics for prisoners, health service for hospital employees, and the short-stay unit for investigations and treatments were considered as optional rotations.

Subsequently, learning objectives were elaborated by the senior residents working in the different care units and reviewed by a committee for relevance and clarity, before being disseminated.

Work organisation

In the new curriculum, the training week was divided into two blocks: 2½ days dedicated to the same continuity clinic for 2 years and 2½ days devoted to 6–12 months rotation in different clinical units, such as walk-in medical and surgical emergency clinics, clinics for prisoners, home visits for the elderly. This organisation aimed at conciliating both continuity of care for chronic patients and exposure to a

wider spectrum of clinical activities for residents (fig. 2). Care for patients with substance abuse were integrated into follow-up consultations with bi-monthly supervision, preceded by a two half-day crash course on substance abuse for residents, given by addiction specialists in the field. Four hours of structured teaching activities were concentrated in one half day (Wednesday morning) to allow all residents working in different geographical areas to attend them.

Team work

Because residents spent less time in the same unit (2½ days instead of 4 to 5 days a week), we decided to reinforce team work in order to maintain quality of care and communication through 3 changes: 1) creation of small clinical sub-units or teams composed of 1 attending physician, 2 part-time senior residents, 6 to 8 residents and a secretary in all units; 2) maintenance of the attending physician and senior residents in the same unit over an entire year; 3) bi-monthly meetings with other health professionals working on the same team (nurses, dietician, social workers and administrative staff).

Implementation of the new postgraduate curriculum

The curriculum was implemented on 1 October 2008, at the start of a new academic year.

General management

One senior attending physician and a secretary were designated to take responsibility for the overall management aspects of the curriculum. It consisted of:

- 1 Regularly collecting, documenting and validating residents' planned schedules, activities and absences on an overview table (work done by the secretary). We used an Excel table hosted on a common server to manage and make this information accessible in a registry by all computers from all sites of the division.
- 2 Re-allocating residents in case of unplanned absences and ensuring balance in residents' reallocation between the different clinical units.

Adjustment processes

During the first 3-month implementation, bi-monthly meetings were organised between the attending physicians in charge of the units to discuss difficulties linked to the new curriculum and to find solutions. It essentially focused on re-scheduling interprofessional meetings and ensuring that all residents received the same information and training sessions specific to each unit.

At three months, the Head of the Division organised a half-day brainstorming meeting on the new curriculum, involving all medical, nursing and administrative collaborators. According to the results of a written survey described below, three discussion groups worked on the following problematic issues: 1) difficulties in transmitting information and in patient follow-up over the week between resident pairs; 2) interprofessional collaboration; 3) dilution of specific knowledge required in some units (for example, knowledge of administrative procedures related to migrants (e.g., asylum seekers or undocumented migrants). Several remedial strategies were found and adopted during the following 6 months: 1) transmission of information between

resident pairs: allocation of the first 30 minutes of the first working day of the half-week (Monday and Thursday) to residents' contact by phone or e-mail with their work partner about patient follow-ups; overlapping of residents' working days by senior residents' working days in order to ensure better follow-up of some complex or unstable patients; 2) more frequent integration of other health professionals in structured training and teaching activities; and 3) dedication of one hour/month of structured training time to specific aspects related to the units, in order to gain more specific information/knowledge/skills. In addition, as all groups highlighted the importance of a common computerised patient file to improve communication, we accelerated the development of an electronic medical record.

Implementation of structured and non-structured training activities

The content of the structured and non-structured training activities was organised according to the core competencies and learning objectives defined above (table 1). During the half-day of structured training, topics of learning activities were distributed over the year in the following way: 75% of structured learning activities were dedicated to patient care and focused on clinical issues (e.g., urinary tract infection, arterial hypertension), 10% to one self (e.g., self-awareness seminars, journal clubs and case presentation prepared by residents) and 15% to patient care and environment (e.g., workshop on social insurances organised by social workers). More detailed information is accessible on the primary care division's website [23].

Evaluation of the new postgraduate curriculum

Three and 24 months after its implementation on 1 October 2008, satisfaction with the new curriculum was evaluated through postal and electronic surveys among all residents

working in the division, independently from the time they entered the new curriculum, and among senior residents, nurses and administrative staff. The survey was developed to assess the impact of the new curriculum on quality of patient care, team work, and residents' learning, consisted of questionnaire items developed using a Delphi-type of process. A sample of residents, senior residents, nurses and administrative staff were asked to make suggestions about the topics/themes to survey. A first survey draft was then sent back to them and content and formulations were modified according to their remarks. The final questionnaire included 10 items using a 5-point Likert scale (not agree (1) to fully agree (5)). We focus here on the 4 most relevant items dealing with the major curriculum changes: global satisfaction, amount of learning, difficulties with patient follow-up over the week, impact of interprofessional meetings on patient care, and team work. They included the following questions: 1) I am globally satisfied with the curriculum organisation which allows residents to follow patients during two years and to increase their clinical experience by rotating in different units of the division; 2) The presence of residents in the unit during half a week is sufficient for patient follow-up; 3) Interprofessional meetings improve the quality of patient care; 4) Interprofessional meetings increase team building and cohesion. Two additional questions were added for residents: 1a) the new curriculum increases my learning 1b) to work on two different sites creates more benefits than difficulties.

To assess whether the quality of postgraduate training changed after implementation of the curriculum, we also used data from the yearly self-administered surveys performed by the Swiss society of physicians (FMH) among residents, which evaluate the quality of the postgraduate training centres. We could not compare our results with other centres involved in ambulatory care training, since

Table 1: List of professional core competencies, resident learning outcomes and training activities of the new curriculum

Dimension	Professional competencies and learning outcomes	% Structured training	Structure training	Unstructured training	Inter-professional meetings	External training	Mentorship
	After completion of the two year educational programme, the resident will be able to:						
Patient	Perform a complete and appropriate patient evaluation	75%	X				
	Apply effective and appropriate preventive and therapeutic interventions		X	X			
	Document relevant elements of care in the medical file			X			
	Establish a trustful relationship and partnership with the patient		X	X			
Self	Care of one's self	10%	X	X			X
	Acquire, maintain and improve professional competences		X	X		X	
	Establish a career or personal development plan			X			X
	Develop critical thinking and use it in clinical decision making		X	X			
	Demonstrate commitment to patients, profession and society by a respectful and ethical behavior		X	X	X		
	Demonstrate commitment to patients, profession and society by taking part into the professional self-regulations			X			
Environment	To collaborate with health professionals and other workers	15%	X	X	X		
	Use resources in an appropriate manner		X	X	X		
	Orient the patient in the socio-sanitary environment in an appropriate way		X	X	X		
	Favour prevention and health promotion on both individual and community levels		X	X	X		
	Inform oneself about medical professional politics		X				
	Participate to the development and maintenance of a quality system			X			
	Facilitate medical students' and other health professionals' learning						
	Contribute to creation, diffusion, application and use of new medical knowledge and practice		X				

the FMH does not give access to results of other institutions individually. Finally, we reviewed the division's yearly planning documents between 2006 and 2010 to identify the proportion of residents who suffered from burnout, experienced a major deviation from their initial plan due to a pregnancy or a career change, as well as the number of weeks during which a replacement was required to overcome these difficulties.

Results

Forty six residents, 44 senior residents, 60 nurses and 30 members of the administrative staff were surveyed at 3 months (T3) and 45 residents, 45 senior residents, 63 nurses and 20 members of the administrative staff were surveyed at 24 months (T24). Response rate was 48% at T3 and 22% at T24 for residents, 43% at T3 and 44% at T24

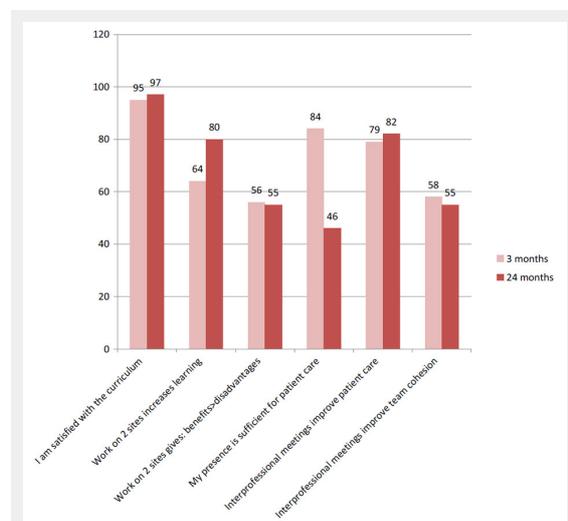


Figure 3

Residents' satisfaction with the new curriculum at 3 (T3) and 24 (T24) months (expressed in %). Response rate at T3: n = 22, response rate 48%; response rate at T24: n = 11, response rate 22%.

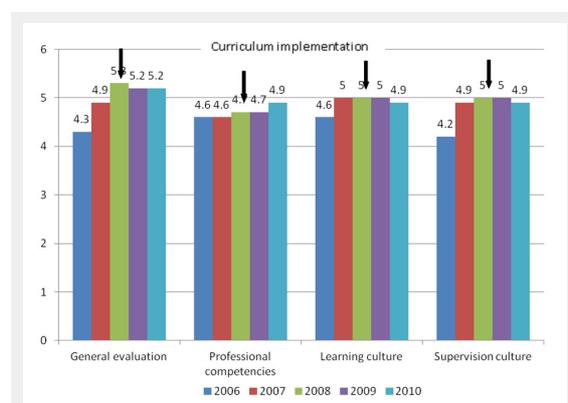


Figure 4

Residents' global evaluation of post-graduate training in the division of primary care medicine, expressed on a Likert scale (1 to 6, 6 being the highest grade). Official FMH data. Response rate: 2007: 15/32 (47%); 2008: 20/45 (44%); 2009: 18/45 (40%); and 2010: 20/49 (41%). Arrows represent curriculum implementation. The rating was based on 6 points-Likert scale.

for senior residents, 47% at T3 and 27% at T24 for nurses and 87% at T3 and 50% at T24 for administrative staff.

Residents' satisfaction with the new curriculum

Response rate varied between the 3 and 24-month assessments (fig. 3). A majority of the responding residents were globally highly satisfied with the new curriculum at 3 and 24 months. A high proportion of them considered that the curriculum change increased their learning experience and more than half of them perceived that the benefits of it outweighed the disadvantages of having the week split into two activities. However, at 24 months, more residents considered that their presence in one site was too short to ensure adequate follow-up. Personal communication with residents suggests that satisfaction with two distinct clinical activities over the week occurred especially when the working week was divided into rotations such as continuity clinics and walk-in clinic consultations. On the other end, combining two activities such as home visits to the elderly and chronic care to asylum seekers seemed to represent a heavier burden in terms of workload and of amount of stress. Interprofessional meetings were highly valued, because they improved quality of patient follow-up and of team work.

Other health professionals' satisfaction with the new curriculum

Response rates varied between professions and the 3 and 24-month assessments (fig. 5). Senior residents and nursing or administrative staff who responded evaluated the new curriculum differently. Senior residents were globally more satisfied with the new curriculum than nursing or administrative staff for all dimensions, particularly for patient follow-up. Although they reported an increased workload, senior residents considered residents' availability for their chronic patients to be sufficient, while other health professionals did not. However, all responders agreed upon the importance and utility of interprofessional meetings both for patient follow-up and team-building.

FMH survey about the quality of postgraduate training

The FMH survey (fig. 4) showed that the evaluation of the quality of training by residents did not change after 2008, when the curriculum was implemented. In addition, some improvement took place in one sub-category of professional competences called "collaboration with other health professionals": collaboration with nurses was rated 4.0 (on a scale from 1 to 6, 6 being the highest grade) in 2008, 4.5 in 2009 and 5.2 in 2010. Similarly, collaboration with other health professionals increased from 4.2 in 2008 to 4.8 in 2010.

Management of the new curriculum

Implementation of the new curriculum was complex, because of a concomitant increase in the number of residents, of various and entangled activities, and of multiple actors in distinct geographical areas. In addition, management of the curriculum was further complicated by numerous pregnancies and changes in career plans. About a third of the residents (35–36%) did not complete the new curriculum as initially planned, with a predominance of pregnancy/maternity leave over career changes (table 2). This implied

that we had to find replacement solutions for 17–18% of resident-weeks. The proportions of residents not completing their scheduled curriculum were even higher prior to implementation of the new one, mainly because of more frequent career changes. During the two years following implementation of the new curriculum, no resident was absent because of burnout, while there were 1 or 2 cases of burnout per year, respectively, in the 2 years before the change. Of mention, exposure to difficult situations, such as in prison medicine, was reported less stressful than it had been in the past, possibly because of the variety offered by the activities of the second half of the week.

Discussion

The new 2-year postgraduate curriculum was developed to ensure that residents would be exposed to a sufficiently broad spectrum of clinical activities and to an appropriate case mix of patients, while facilitating continuity of care on a longer follow-up period for chronic patients. It required redefining core competences to be acquired, reorganising the residents' working week in two different clinical activities and strengthening interprofessional collaboration to ensure patient follow-up and communication. Despite management difficulties linked to these entangled activities and some resistance to change from some professional groups, the new curriculum seemed to meet some of its educational objectives. Most residents who responded to the survey expressed their satisfaction with the new curriculum, particularly because of the wide variety of learning experiences. Combination of acute and longitudinal clinical activities

where especially appreciated. Residents acknowledged that working in two different sites provided a positive balance. Interprofessional meetings were highly valued by all collaborators. However residents, nursing and administrative staff reported difficulties in patient follow-up due to decreased time spent by residents in each clinical unit.

Our results are in accordance with other data showing that training in ambulatory care was considered to be optimal and successful when residents were exposed to an adequate number and variety of patients [24], but also when there is a good balance between longitudinal and acute care. Continuity of care was highly valued by the residents who stayed in the division two years. Numerous studies show that continuity of care has a positive impact with increased satisfaction of both patients and physicians and decreased patients' use of emergency rooms [5, 25, 26]. Extending the training period to two years offers residents more opportunities to develop and consolidate their competencies in ambulatory medicine and provides longer continuity of care and interpersonal relationships with patients, which is particularly important for vulnerable populations [14].

Residents, nursing and administrative staff reported difficulties in patient follow-up with the new curriculum. Several improvements were made during the following years to ensure that residents would be easily reachable for questions regarding patients, while working at another site, and that transmissions and hands-off procedures would be secured by setting specific time slots in the residents' weekly schedules.

All valued interprofessional meetings, especially for patient follow-up and, to a lesser degree, for team building. Such meetings may contribute to train professionals in how to function as interprofessional health care teams. Given the current shift from inpatient to outpatient care and the emergence of disease management programmes, primary care institutions have a new important educational role to play in providing opportunities for different health professionals to learn from and about each other and to prepare them to work in teams [27]. Interprofessional teamwork and collaboration are strongly encouraged by accrediting bodies in medicine, nursing and social work, in Switzerland and elsewhere [28]. They are seen as essential strategies to improve health care processes and outcomes [29, 30]; however, they require good communication skills and strong information and communication technologies (ICT). A shared electronic medical record by all health professionals, wished by all collaborators, is now being implemented in our division and will become a complementary tool to improve transmission of information and follow-up of patients over the week.

The complexity of the new organisation required important management and coordination resources. Use of more

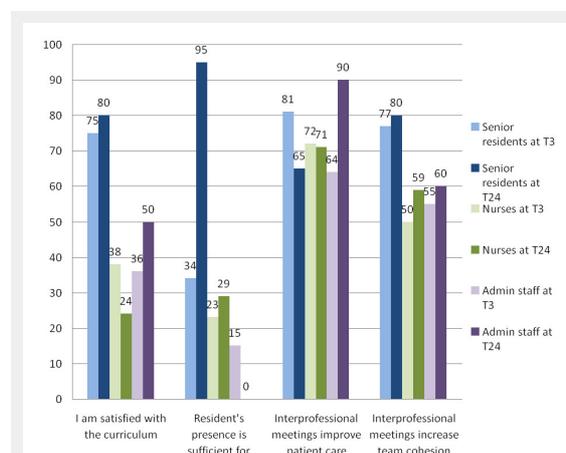


Figure 5

Evaluation of the new curriculum at 3 (T3) and 24 months (T24) by senior residents, nurses and administrative staff (expressed in %). Response rates: senior residents: n = 19 (43%) at T3 and n = 20 (44%) at T24; nurses: n = 28 (47%) at T3 and n = 17 (27%) at T24, administrative staff: n = 26 (87%) at T3 and n = 10 (50%) at T24.

Table 2: Rates, reasons and duration of non-completed curriculum.

	Previous curriculum		New curriculum	
	2006–07	2007–08	2008–09	2009–10
Pregnancy / maternity leave (% residents)	20	31.6	22.2	21.6
Career change (% residents)	20	21.3	13.9	13.5
Uncompleted curriculum (% residents)	40	52.6	36.1	35.1
Cumulated absence duration (% resident-weeks)	15.2	22.1	18.1	16.7

sophisticated electronic human resources software than simple Excel tables may facilitate the management of complex schedules, activities and absences. They may help to both take into account and to conciliate unit-specific and institutional priorities and constraints. In addition, transferring the organisational challenges of such curricula to a skilled project manager may be highly desirable and could help decrease the amount of time dedicated by senior physicians to purely administrative management of human resources.

Successful implementation of a new organisation in health care or education depends on three core elements – the level and nature of the evidence, the context of environment into which the change is to be placed and the methods or ways in which the process is facilitated [31]. The need for more diverse and enlarged learning activities was based on medical experts and research-based literature [3, 5, 15]. The context, the division of primary care, is a diversified organisation composed of several care units geographically spread over the city, as shown in figure 1, and which tended to work in a rather autonomous way [32]. Such organisation pattern did not favour the curriculum's development and implementation, because it forced specific units to adapt their functioning and priorities to the new educational challenges. However, facilitation processes, such as a strong leadership of the head of the division, active involvement of senior residents, acting as bridges between units' specificities and the overall educational project requirements, as well as the multiple preparatory interprofessional meetings, helped to make the project implementable. The implemented project led to the desired diversification of clinical activities and formalisation of residents' professional competencies.

There were several limitations in the design, implementation and evaluation of the curriculum. First, the yield of the evaluation survey was limited by a rather low response rate and we cannot exclude a bias by respondents being either very dissatisfied or very satisfied with the new curriculum. However, response rates to the national survey performed by the Swiss society of physicians were equally low before and during the implementation of the curriculum; although we have no explanation for it, it would be surprising that reasons for not answering surveys would have differed between years. Second, patients, as opposed to residents, senior residents and private general practitioners, were not involved in designing or evaluating the curriculum, despite the fact that they were directly concerned by the changes introduced. We do not know in which way they were affected by it. Since our division was not yet included in routine patient satisfaction surveys of the Geneva University Hospitals, we could not document any change in patient satisfaction regarding their care. However, there was no report of patients quitting, while the number of patients being cared for in our division increased over the last two years. Third, we did not assess residents' performance in an objective and summative way and, therefore, were unable to know whether their performance improved over time thanks to the curriculum change. Such assessments are highly desirable and will be soon required by the Swiss Federation of Physicians (FMH) for board certification in general internal medicine.

In conclusion, the new two-year postgraduate curriculum in outpatient general internal medicine was developed to better prepare residents to provide preventive, acute, and chronic care to the general population, by increasing diversity in learning activities, patient case mix, and continuity of care over a longer period of training. The implementation of a new curriculum for post graduate residency training appeared to be satisfying. It gave us the opportunity to revise and formalise competences to acquire, redesign the training activities accordingly, identify compulsory clinical activities and reinforce interprofessional collaboration. It also gave us insights into challenges which have to be addressed when disseminating new training schedules and activities: it needs local champions, makes management of human resources more complex and requires the skills of a real project manager. It also requires additional ICT support to optimise interprofessional team care and, finally, it makes patient care more challenging. The next step is to define and implement an assessment system in order to monitor residents' progress and professional performance along future organisational changes.

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Figures (large format)

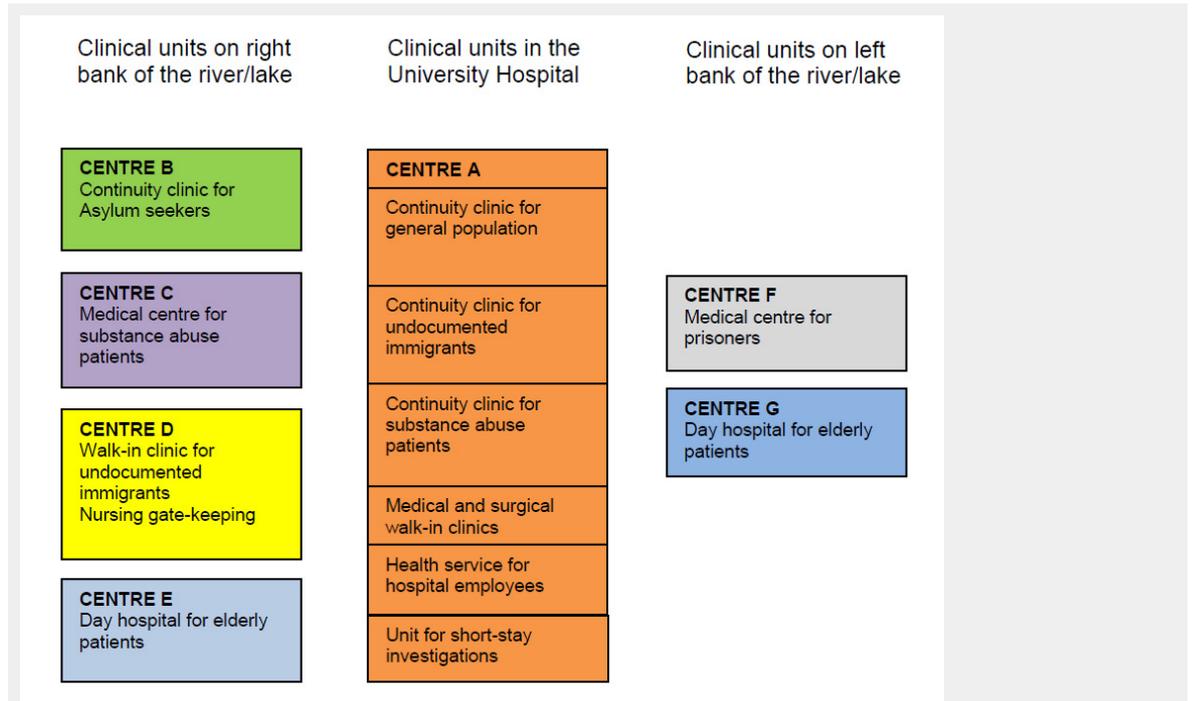


Figure 1
Medical sites and units belonging to the Division of Primary Care Medicine.

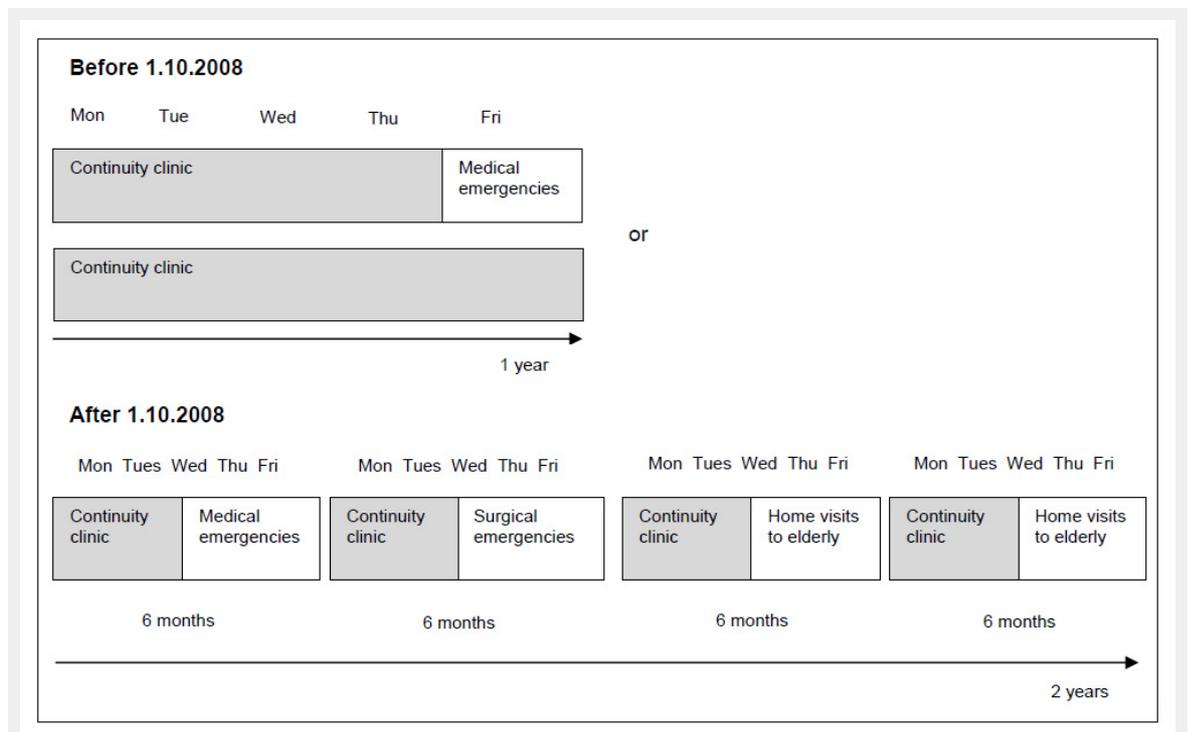


Figure 2
Model of a week organisation before and after the implementation of the new curriculum.

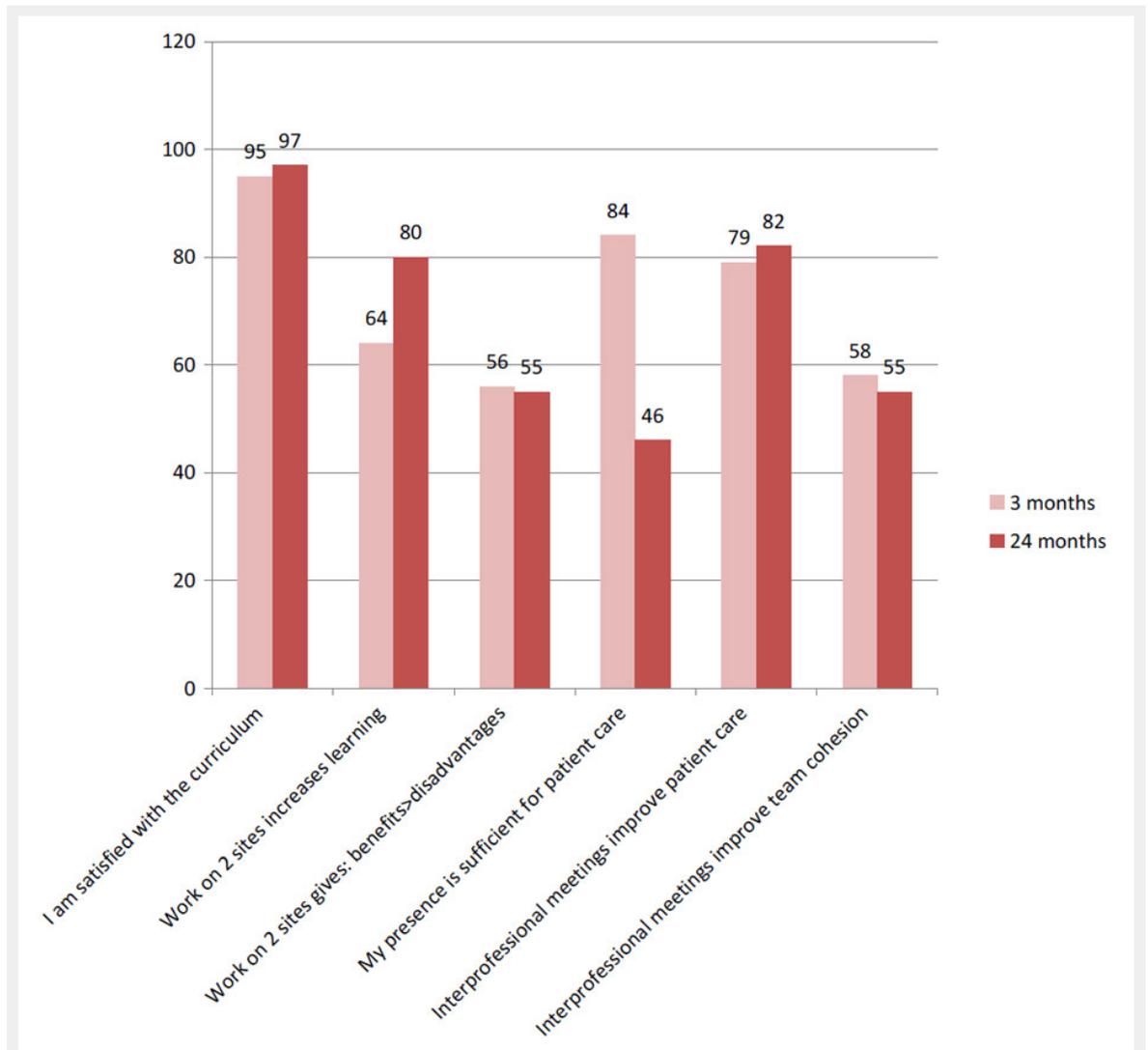


Figure 3

Residents' satisfaction with the new curriculum at 3 (T3) and 24 (T24) months (expressed in %).
 Response rate at T3: n = 22, response rate 48%; response rate at T24: n = 11, response rate 22%.

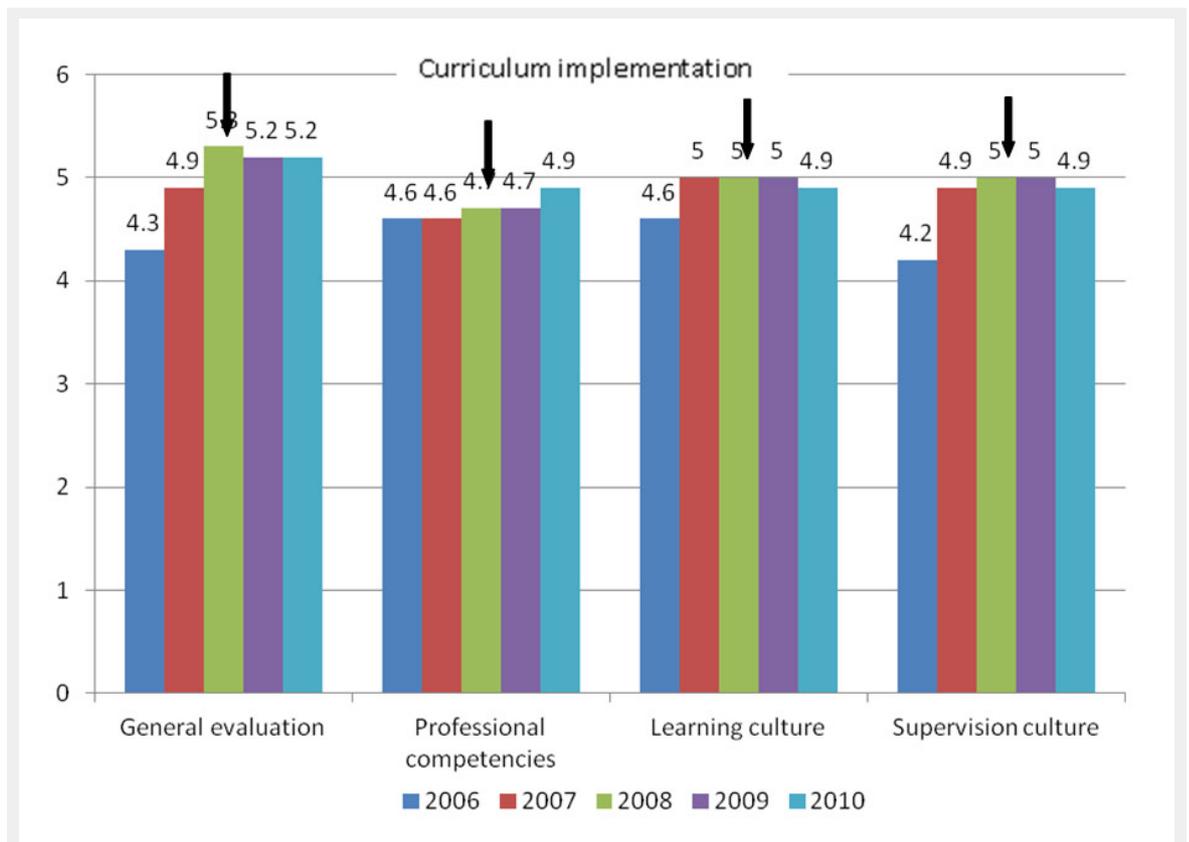


Figure 4

Residents' global evaluation of post-graduate training in the division of primary care medicine, expressed on a Likert scale (1 to 6, 6 being the highest grade). Official FMH data.

Response rate: 2007: 15/32 (47%); 2008: 20/45 (44%); 2009: 18/45 (40%); and 2010: 20/49 (41%). ↓ Arrows represent curriculum implementation. The rating was based on 6 points-Likert scale.

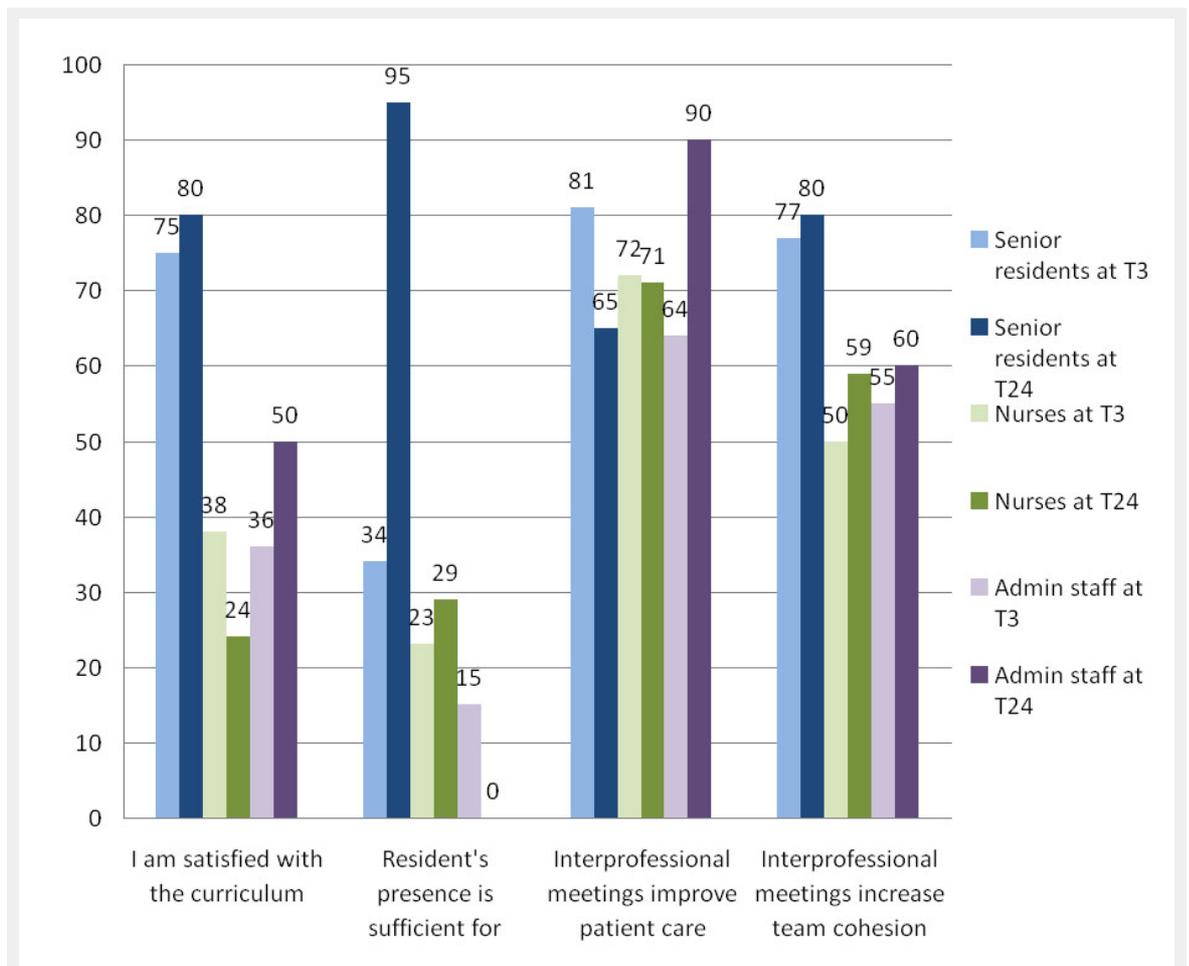


Figure 5

Evaluation of the new curriculum at 3 (T3) and 24 months (T24) by senior residents (clinical SV), nurses and administrative staff (expressed in %).

Response rates: senior residents: n = 19 (43%) at T3 and n = 20 (44%) at T24; nurses: n = 28 (47%) at T3 and n = 17 (27%) at T24, administrative staff: n = 26 (87%) at T3 and n = 10 (50%) at T24.