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Well-being of the Swiss General Internal Medicine workforce: a nationwide survey

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Summary

STUDY AIMS: Physician well-being is related to productivity and quality of care. The well-being of general internists (physicians who provide most primary care services) has never been comprehensively examined in Switzerland. In this survey, we assessed the well-being of Swiss general internists and its relationship to personal and work-related factors.

METHODS: In November 2022, we conducted a national survey among members of the Swiss Society of General Internal Medicine. We evaluated the association between personal and work-related factors and reduced well-being (Physician Well-Being Index ≥4 points) using multivariable logistic regression.

RESULTS: The response rate was 21% (1672/8111 members). Among the respondents whose data was analysed, 44% (710/1624) were women and 76% (1234/1613) primarily worked in an out-patient setting. Overall, 33% (543/1621) reported reduced well-being and 54% (876/1623) felt burnt out. Older age was associated with a lower likelihood of reduced well-being (adjusted odds ratio [aOR] 0.97, 95% confidence interval [CI] 0.96–0.98, per year) while being female was associated with a higher likelihood of reduced well-being (aOR 1.33, 95% CI 1.03–1.72). Factors associated with reduced well-being included working in an outpatient setting (aOR 1.76, 95% CI 1.24–2.51), having ≤2.5 personally rewarding working hours/day (aOR 2.18, 95% CI 1.63–2.90), long weekly working hours (aOR 1.02, 95% CI 1.01–1.03, per hour) and dissatisfaction with income (aOR 2.42, 95% CI 1.78–3.30).

CONCLUSIONS: A third of Swiss general internists reported having a reduced well-being and approximately half felt burnt out. Female sex and several work-related factors such as working in an out-patient setting, long working hours, few personally rewarding work hours, and income dissatisfaction were related to having a reduced well-being.

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Introduction

Physician well-being, which is determined by the reciprocal domains of practice efficiency, a culture of wellness, and personal resilience [1], has attracted considerable attention as burnout rates in physicians are consistently high [1–3]. Both well-being and professional fulfilment directly affect productivity, the quality of practice and patient care [4–7]. This has been shown in recent studies, which found a high prevalence of burnout, reduced mental well-being, and signs of depression in physicians, which is reflected in higher rates of medical negligence, patient mortality, patient dissatisfaction, compromised teamwork and job turnover [8–10]. In contrast, physicians with more professional fulfilment (without signs of burnout) performed better on quality-of-life indicators [11]. Given how physician well-being affects financial and personal burdens, it has been proposed as a quality indicator [4].

A survey among U.S. physicians across all specialties found general internists to have the second highest frequency of burnout (>50%) [9]. Another survey showed a lower level of satisfaction among general internists, which was attributed to a higher case load of patients with complex health issues [12]. Two small Swiss surveys conducted among general internal medicine (GIM) residents and board-certified general internists working in hospitals found high rates of reduced well-being (19% and 40%, respectively), with approximately 60% of participants reporting signs of burnout [8, 13]. However, these surveys were conducted in younger general internists working in the hospital setting only, and the well-being of the larger general internal medicine workforce – including physicians from all age groups and practice settings (i.e. in- and out-patient) – is unknown. Therefore, we examined the well-being of Swiss general internists using a nationwide survey and explored personal and work-related determinants of well-being. Identifying potential causes of reduced well-being could inform future interventions aimed at improving well-being within the Swiss general internal medicine workforce.

Methods

Study design and population

We conducted an anonymous electronic survey among members of the Swiss Society of General Internal Medicine (SSGIM) in November 2022. The SSGIM is the largest professional medical specialty society in Switzerland and includes members from the three main language regions (Swiss German, French and Italian), and those at all career stages (postgraduate trainees and trained general internists) and work settings (in- and out-patients). The

ethics committee of the canton of Bern waived the need for ethical approval and informed consent as the survey did not fall under the Swiss Federal Act on Research on Human Beings.

Online survey

To conduct the survey, we developed an online tool using Redcap software [14]. We provided the survey in German, French and Italian to ensure optimal language comprehension across all major Swiss regions and to reduce completion time. To assess the survey's feasibility and comprehensibility, the survey tool was tested and refined in a pilot study with seven participants. All SSGIM members with a valid email address (96% of members) received an invitation to participate, along with a brief explanation of the survey goal, estimated completion time and a web link to the online survey. After the initial invitation, four email reminders, at 7-day intervals, were sent to participants who had not yet completed the survey. To ensure anonymity, completed surveys were not linked to email addresses.

The survey was composed of three parts: (1) the collection of personal and work-related characteristics previously described to be associated with well-being or burnout, (2) an evaluation of professional fulfilment-related characteristics (e.g. overall job satisfaction) and suicidal ideation and (3) the completion of the 7-item Physician Well-Being Index (PWBI).

We collected information on the following personal physician characteristics: age [15, 16], sex [16, 17], relationship status [18], having a partner working as a health-care professional [15, 19] and having children [15, 16]. Work-related characteristics included Switzerland as the country of medical graduation (yes/no), region of work (Swiss German-, French-, Italian- or Romansh-speaking region) [20], general internal medicine residency training status (yes/no), main work setting (out-patient/in-patient), percentage of employment, average working hours per week during the last three months [21, 22], percentage of time spent on administrative tasks during a standard working day during last three months [23], perception of doing meaningful work ("Please estimate how many hours you spend in a typical day at work on activities that you find personally rewarding"; 0–2.5, 2.5–5, 5–7.5, ≥7.5 hours) [24] and satisfaction with current income (rated on a 3-point Likert scale from 1 "dissatisfied" to 3 "completely satisfied") [25].

To keep the questionnaire as short and user-friendly as possible, we used single-item measures to assess professional fulfilment-related characteristics such as overall job satisfaction ("Overall, how satisfied are you with your job?"; 5-point Likert scale from 1 "very dissatisfied" to 5 "very satisfied") [26], self-perception of major medical errors during the last three months ("Are you concerned you have made any major medical errors?"; yes/no), intention to leave clinical practice ("How much do you currently wish you could leave clinical practice?"; 5-point Likert scale from 1 "not at all" to 5 "absolutely"), and willingness to become a physician again (5-point Likert scale from 1 "not at all" to 5 "absolutely") [27–29]. These measures have excellent reliability and are associated with burnout and other outcomes relevant to physician well-being [30]. We also assessed suicidal ideation during the last 12 months ("Have you had thoughts of taking your own life?"; yes/no) [28, 29, 31].

Physician well-being was evaluated using the Physician Well-being Index [28]. This index includes the five domains of burnout, depression, stress, fatigue, and mental and physical quality of life. Respondents were asked to answer seven yes/no questions and received a score of 0–7 based on the number of "yes" answers. Originally derived for medical students [32], the Physician Well-Being Index was slightly modified for use in physicians (generalists, specialists and residents) and has shown a sensitivity of 73% and a specificity of 81% for identifying physicians with a low mental quality of life at a threshold score of ≥4 points [28]. At the same cut-off of 4 points, the positive likelihood ratio for a low mental quality of life, high fatigue and suicidal ideation was 2.3, 2.2, and 1.7, respectively. The Physician Well-Being Index has also been successfully validated in residents [29]. While English, German and French versions of the Physician Well-Being Index are already in use [8], we created an Italian version according to the recommendations for cross-cultural adaption of self-reported measures using forward-backward translations of the original English version [33].

Statistical analysis

Personal-, work- and professional fulfilment-related characteristics/suicidal ideation were presented as n (%) for categorical variables and medians with interquartile ranges (IQR) for continuous variables. We also described the proportion of respondents with reduced well-being, defined as a Physician Well-Being Index of ≥4 points.

We used multivariable logistic regression to explore associations between personal and work-related characteristics and reduced physician well-being (a Physician Well-Being Index score of ≥4). Predictor variables were age, sex, relationship status, having a partner working as a healthcare professional, having children, work region, general internal medicine residency status, main practice setting, working hours, personally rewarding work hours, administrative workload, and income satisfaction. We did not include the percentage of employment in the model because this variable exhibited strong collinearity with working hours (correlation coefficient [r] = 0.76). Predictive mean matching and logit models were used to impute missing non-binary and binary variables, respectively. In total, fifty imputed data sets were generated, which were analysed using Rubin's rules to combine results across data sets [34].

The associations between the Physician Well-Being Index score and overall job satisfaction, self-perception of major medical errors, intention to leave clinical practice, willingness to become a physician again and suicidal ideation were assessed using Spearman's rank correlation coefficient (r_s). A r_s from 0 to <0.10 indicated a negligible positive correlation, while ranges of 0.10 to 0.39 were weak, 0.40 to 0.69 moderate, 0.70 to 0.89 strong, and 0.90 to 1.00 very strong positive correlations. In contrast, a r_s from 0 to <−0.10 indicated a negligible negative correlation, and ranges from −0.10 to −0.39 were weak, −0.40 to −0.69 moderate, −0.70 to −0.89 strong, and −0.90 to −1.00 very strong negative correlations [35]. A p-value of less than 0.05 was considered statistically significant. All analyses were conducted using Stata version 18.

Results

Study sample

Overall, 1672 of 8111 SSGIM members (21%) responded to our survey. Of these, 47 were excluded because the Physician Well-Being Index was completely missing, leaving a final study sample of 1625 surveys (figure 1). The median age of the participants was 53 years (interquartile range 43–61), 44% were women, 90% had completed general internal medicine training, and 76% primarily worked in an out-patient setting (table 1). Overall, 36% reported being partly satisfied, dissatisfied or very dissatisfied with their job, 14% were concerned that they had made a major medical error during the last three months, 5% reported suicidal ideation in the last year, 36% thought about leaving clinical practice at least sometimes and 17% responded that they would rather not or not at all become a physician again (table 1).

Physician well-being

The median Physician Well-Being Index score was 2 points (interquartile range 1–4 points), and 33% of participants had a Physician Well-Being Index score of ≥4 points, indicating reduced well-being. Approximately half of the participants reported feeling burnt out from work, bothered by emotional problems, or overwhelmed by the workload. Approximately two out of five respondents were worried that their work was hardening them emotionally, while a third indicated that their physical health affected their ability to do their daily work. One in four respondents reported feeling down, depressed, or hopeless (table 2).

Association between personal and work-related factors with reduced well-being

After adjustment, older age was associated with a significantly lower likelihood of reduced well-being (odds ratio [OR] 0.97, 95% confidence interval [CI] 0.96–0.98, per year) while the female sex was associated with a higher likelihood of reduced well-being (OR 1.33, 95% CI 1.03–1.72) (table 3). Participants who primarily worked in out-patient settings (OR 1.76, 95% CI 1.24–2.51), had ≤2.5 personally rewarding working hours per day (OR 2.18, 95% CI 1.63–2.90), longer weekly working hours (OR 1.02, 95% CI 1.01–1.03, per hour), and those who were dissatisfied with their income (OR 2.42, 95% CI 1.78–3.30) were significantly more likely to report reduced well-being. Those with a higher administrative workload were also more likely to experience reduced well-being; although, the association failed to reach statistical significance (OR 1.05, 95% CI 0.97–1.13, per 10% increase).

Association between the Physician Well-Being Index score and professional fulfilment / suicidal ideation

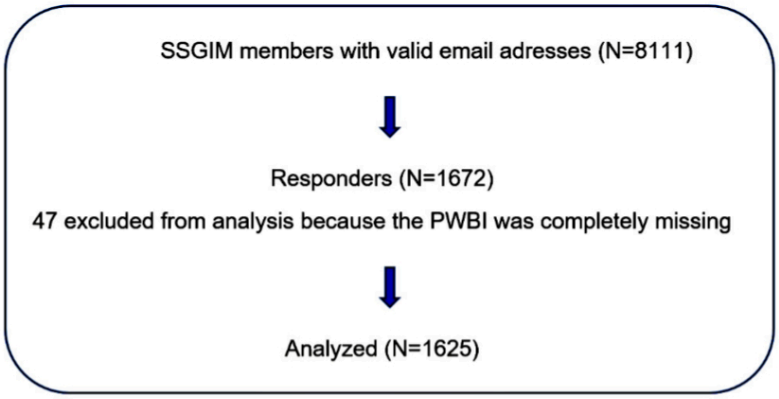
We found a moderate but significant correlation between Physician Well-Being Index scores and overall job satisfaction (r_s = −0.55, p <0.001), and a significant, albeit weak correlation between Physician Well-Being Index scores and self-perceived major medical errors (r_s = 0.22, p <0.001), intention to leave clinical practice (r_s = 0.36, p <0.001), willingness to become a physician again (r_s = −0.37, p <0.001) and suicidal ideation (r_s = 0.21, p <0.001) (table 4).

Discussion

Our nationwide survey included general internists for whom most had completed training and practiced in the out-patient setting. A third reported reduced well-being, primarily due to feeling burnt out or difficulties with managing their workload. Several factors, including being female, working in an out-patient setting, having fewer personally rewarding working hours or longer work hours and dissatisfaction with income were associated with reduced well-being. A reduced well-being was also correlated with lower job satisfaction and the intention to leave clinical practice.

Our findings are consistent with data from Switzerland and abroad. In a survey of Swiss general internal medicine residents, 19% reported reduced well-being and 60% felt burnt out [8]. A survey of Swiss primary care practitioners found that a third of participants suffered from at least moderate-degree burnout [36]. Among board-certified general internists working in Swiss hospitals, 40% reported reduced well-being and 56% reported symptoms of burnout. In a survey of physicians from all specialty disciplines in the

Figure 1: Flow chart. PWBI: physician well-being index; SSGIM: Swiss Society of General Internal Medicine.



United States, 46% reported at least one burnout symptom, with the highest rates among physicians at the front line of care access (family medicine, general internal medicine and emergency medicine) [9]. It has been postulated that lower satisfaction among general internists is related to higher caseloads that comprise complex medical, and especially psychosocial, problems [12].

Table 1:
Respondent characteristics (n = 1625).

Characteristics		All	Missing values
		n (%) or median (IQR)	
Personal			
Age, years		53 (43; 61)	13 (1)
Female sex		710 (44)	1 (0)
Relationship status			2 (0)
	Married	1109 (68)	
	In a relationship	351 (22)	
	Single	163 (10)	
Partner works as a health care professional		654 (40)	2 (0)
Has children		1207 (74)	
Work-related			
Medical graduation in Switzerland		1327 (82)	2 (0)
Region of work			5 (0)
	Swiss German	1362 (84)	
	French	197 (12)	
	Italian	45 (3)	
	Romansh	16 (1)	
In general internal medicine residency training		138 (8)	5 (0)
Main practice setting (>50% of time)			12 (1)
	In-patient	379 (23)	
	Out-patient	1234 (76)	
Percentage of current employment		80 (60; 100)	4 (0)
Working hours per week*		48 (35; 55)	6 (0)
Average percentage of administrative tasks per day*		30 (20; 40)	7 (0)
Personally rewarding work hours per day			5 (0)
	0–2.5	286 (18)	
	2.5–5	607 (37)	
	5–7.5	590 (36)	
	≥7.5	137 (8)	
Satisfaction with current income			3 (0)
	Dissatisfied	218 (13)	
	Partly satisfied	843 (52)	
	Completely satisfied	561 (35)	
Professional fulfilment-related			
Overall job satisfaction			2 (0)
	Very dissatisfied	20 (1)	
	Dissatisfied	78 (5)	
	Partly satisfied	487 (30)	
	Satisfied	778 (48)	
	Very satisfied	260 (16)	
Self-perception of major medical errors*		226 (14)	2 (0)
Intention to leave clinical practice			7 (0)
	Not at all	602 (37)	
	Rather not	428 (26)	
	Sometimes	380 (23)	
	Rather yes	139 (9)	
	Absolutely	69 (4)	
Willingness to become physician again			
	Not at all	67 (4)	
	Rather not	204 (13)	
	Don't know	290 (18)	
	Probably yes	587 (36)	
	Absolutely	477 (29)	
Suicidal ideation**		78 (5)	2 (0)

IQR: interquartile range.

* During the last 3 months.

** During the last 12 months.

According to our survey as well as others [16, 37], older physicians experience reduced well-being less often. Physicians in later career stages appear to be the most satisfied and have the lowest levels of distress compared to earlier career stage physicians [38]. Potential explanations for this include fewer work-home conflicts, lower levels of stress, less perceived strain from family and friends, and more life experience in older individuals [38–40]. Whether known work-related stressors [36] (such as the image of medicine in the media, workloads associated with health insurance, changes in the healthcare system and economic constraints) have a differential effect on older versus younger physicians should be further examined.

Women displayed higher rates of reduced well-being than men in our survey. Female physicians may have an in-

Table 2:
Well-being of respondents (n = 1625).

Items of the physician well-being index*		**All**	**Missing values**
		n (%)	
Have you felt burnt out from your work?		876 (54)	1 (0)
Have you worried that your work is hardening you emotionally?		620 (38)	1 (0)
Have you often been bothered by feeling down, depressed, or hopeless?		409 (25)	1 (0)
Have you fallen asleep while stopped in traffic or driving?		41 (3)	2 (0)
Have you felt that all the things you had to do were piling up so high that you could not overcome them?		910 (56)	2 (0)
Have you been bothered by emotional problems (such as feeling anxious, depressed or irritable)?		776 (48)	0
Has your physical health interfered with your ability to do your daily work at home and/or away from home?		489 (30)	0
No. of items present (n = 1621)			4 (0)
	0	336 (21)	
	1	250 (15)	
	2	262 (16)	
	3	230 (14)	
	4	224 (14)	
	5	169 (10)	
	6	139 (8.6)	
	7	11 (0.7)	

* During the last month.

Table 3:
Association between personal and work-related characteristics and reduced physician well-being.

Characteristics		**Adjusted * OR (95% CI)**	**p- value**
Personal	Age, per year	0.97 (0.96 to 0.98)	<0.001
	Female sex	1.33 (1.03 to 1.72)	0.032
	Married or in a relationship	0.83 (0.56 to 1.23)	0.349
	Partner working as a health care professional	0.98 (0.77 to 1.24)	0.843
	Has children	1.03 (0.77 to 1.37)	0.852
	Swiss German-speaking work region**	0.95 (0.70 to 1.29)	0.746
Work-related	In general internal medicine residency training	1.02 (0.65 to 1.60)	0.938
	Mainly working in the out-patient setting***	1.76 (1.24 to 2.51)	0.002
	≤2.5 rewarding work hours per day****	2.18 (1.63 to 2.90)	<0.001
	Working hours per week, per hour #	1.02 (1.01 to 1.03)	<0.001
	Percentage of administrative tasks per day, per 10% increase # #	1.05 (0.97 to 1.13)	0.214
	Dissatisfaction with income # # #	2.42 (1.78 to 3.30)	<0.001

CI: confidence interval; OR: odds ratio.

* We explored associations between personal and work-related factors and reduced physician well-being using multivariable logistic regression, with adjustments made for all other variables. A p-value of <0.05 was considered statistically significant.

** Compared to non-Swiss German-speaking work regions (i.e. French, Italian and Romansh-speaking work regions).

*** >50% of the professional activity in an out-patient setting.

**** Hours spent on activities that one finds personally rewarding during a typical day at work.

Average working hours per week during the last three months.

Percentage of time spent on administrative tasks on an average work day during the last three months.

Dichotomised as satisfied (“totally satisfied” or “partly satisfied”) versus dissatisfied (“dissatisfied”).

Table 4:
Spearman’s rank correlation between, Physician Well-Being Index (PWBI) scores and professional fulfilment-related characteristics / suicidal ideation.

Characteristics	**Spearman’s rho**	**p -value**
Overall job satisfaction	−0.55	<0.001
Self-perception of major medical errors (last 3 months)	0.22	<0.001
Intention to leave clinical practice	0.36	<0.001
Willingness to become a physician again	−0.37	<0.001
Suicidal ideation (last 12 months)	0.21	<0.001

creased risk of burnout [3, 10] and their mental well-being may be lower due to the additional burdens of housework and caring for children and elderly relatives [41, 42], with a higher risk for work-home conflicts [28].

The continuing rise of part-time work among Swiss primary care physicians, in both women and men, indicates that part-time professional activity may correspond to the needs of general internists [43]. A survey among Swiss general internal medicine hospitalists showed that part-time versus full-time work was associated with a lower likelihood of reduced well-being and depressive symptoms, possibly as a consequence of better work-life integration [13]. Hence, the greater availability of on-site childcare facilities and flexible scheduling are potential measures to help physician mothers thrive in their careers [44–46]. Although childcare is still predominantly carried out by women, the role of fathers is changing, and there is a trend towards part-time work among men, which highlights the relevance of these supportive factors for males as well [13, 43, 47].

Work-related factors, such as working in an out-patient setting, the perception of a low number of personally rewarding work hours, longer working hours and dissatisfaction with income were among the strongest predictors of reduced well-being in our survey. Burnout rates are also high among physicians in private practice, regardless of specialty and working hours, indicating distinct work-related predictors [3, 38, 48, 49]. Financial and logistical factors such as difficulties with work organisation/processes due to geographical isolation and the transience of patient relationships have also been cited as causative factors [50]. Spending less than 20% of working time on activities considered meaningful to physicians, such as direct patient care, research and education has been associated with higher burnout rates [51]. The overall administrative burden has been shown to be associated with a higher burnout rate [52]. According to one systematic review [53], organisation-related interventions, such as delegating organisational and administrative tasks to non-physician staff, workload reduction, schedule changes, improved usability/inter-operability of electronic health records and designing team-based care models, are associated with a significant reduction in burnout. However, stricter limits on working hours may not necessarily improve well-being, as it may increase workload intensity in the remaining worktime [8, 54, 55]. Further organisational measures could include specific training in time management and courses to facilitate health insurance-related tasks and economic aspects of delivering primary care services.

Prior surveys have shown a strong correlation between income and career satisfaction and mental health [24, 56–58], but no association with finding a satisfactory meaning in life, career commitment, and joy in practice [24, 59]. In another survey, physicians who believed their pay was fair reported greater work satisfaction, a lower likelihood of leaving their practice and better overall health [60]. Thus, closing the well-known income gap between primary care physicians and specialists has the potential to boost the Swiss primary care workforce [61–63].

Our study has potential limitations. First, despite our efforts (including four email reminders), our response rate of 21% was low, which may cast doubt on the representativeness of our results. However, prior national surveys on physician well-being or burnout among members of large national medical societies (e.g. the American Medical Association) have had comparably low response rates as well [3, 9, 29]. Second, the goal of our survey was to examine the well-being of the broader general internal medicine workforce; thus, our results may not be generalisable to sub-groups such as younger physicians for whom work-home conflicts and income may have more significance compared to older physicians [8, 13]. Third, 84% of the respondents were working in a Swiss German-speaking region; however, the Swiss German-speaking part of Switzerland comprises only 62% of the whole [64]. Thus, the other language regions may be somewhat under-represented in our survey. Fourth, we assessed the association between a broad set of personal and work-related factors and well-being. However, as we had to balance survey completeness with user-friendliness, we were unable to explore other factors with a potential impact on well-being, such as satisfaction with electronic medical records or personal job autonomy [49, 65]. Finally, the associations found in our study do not necessarily represent causality, and we cannot exclude the risk of self-reporting bias, which are limitations inherent in all surveys.

In conclusion, our study uncovered a distressed general internal medicine workforce in Switzerland. As women now represent approximately 60% of general internal medicine trainees [8], and primary care is predominantly provided by office-based general internists in Switzerland, our findings do not bode well for the ageing and increasingly depleted Swiss primary care workforce [62, 66, 67]. In our study and others, a reduced well-being was correlated with the intention to leave clinical practice [8, 27, 28, 68], which may further decimate the already shrinking Swiss primary care workforce. Measures to improve physician well-being should focus specifically on women and general internists practicing in the out-patient setting.

Data availability

De-identified study data and STATA codes for analysis may be obtained from the corresponding author upon reasonable request.

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Potential competing interests
All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. No potential conflict of interest related to the content of this manuscript was disclosed.

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