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1 **Well-being at work among general practitioners working in**
2 **multidisciplinary primary care teams: a cross sectional study**

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16
17
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1 **Abstract** (250w)

2 **Background**

3 Transforming primary care (PC) through the development of multidisciplinary teams can represent a
4 challenge in terms of occupational well-being.

5 **Aim**

6 This study aimed to investigate associations between occupational stress, job satisfaction among
7 general practitioners (GPs) and the professional composition of PC teams.

8 **Desing and setting**

9 We conducted a secondary analysis of the data from 11 Western countries that participated in the
10 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians (N = 13,200).

11 **Methods**

12 PC practice types (N=5) were defined in a previous study, based on their composition of healthcare
13 professionals: the Traditional, Multidisciplinary, Nurse-centred, Psychologist-centred and
14 Physiotherapist-centred models. Using ordered logistic regression analysis, we assessed associations
15 between the five practice models and two GP-reported indicators of well-being at work: job
16 satisfaction and occupational stress.

17 **Results**

18 Working in multidisciplinary teams, when compared to traditional (GP-centred) practice, was
19 associated with higher occupational well-being, both through lower occupational stress (OR = 0.77,
20 95%CI [0.68–0.87]) and greater job satisfaction (OR = 1.43, 95%CI [1.26–1.62]). This positive
21 association was also observed in psychologist-centred practices (OR = 0.81, 95%CI [0.71–0.93] for
22 occupational stress and OR = 1.24, 95%CI [1.09–1.42] for job satisfaction). Working in nurse-centred
23 practices was associated with greater satisfaction but only in the smallest practices (OR = 1.59, 95%CI
24 [1.14–2.22]) with < 1.4 full-time equivalent GPs.

25 **Conclusion**

26 Positive associations between multidisciplinary PC teams and occupational well-being are important
27 results for the future of healthcare systems in Western countries, providing interesting avenues for
28 improvements for healthcare professionals and policy-makers.

29

1 **Keywords:** General practitioners, Typology, Well-being

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1 **How this fits in**

2 Health care systems have to adapt rapidly to population needs. The major evolution in PC involves
3 changes in work organisation, especially the development of multidisciplinary teams. This evolution
4 from a physician-centred culture to a team-based one might also represent a challenge to GPs' well-
5 being. This study showed that working in multidisciplinary teams was associated with higher GPs' well-
6 being, both through lower occupational stress and higher job satisfaction.

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1 INTRODUCTION

2 In the context of shortages and recruitment crises in many countries, maintaining healthcare
3 professionals' health and well-being has become a growing concern for public health decision-makers¹
4 ². . In primary care (PC), general practitioners (GPs) have been the subjects of numerous studies
5 describing their exposure to occupational stress and its consequences, mainly in terms of burnout ³⁻⁵.
6 Exposure to work overload and, in particular, administrative overload are among the factors most
7 often found to generate work-related stress and dissatisfaction^{6-9 10}.

8 After the Alma-Ata conference and Astana conferences¹¹, Western countries adopted strategies for
9 strengthening PC to meet their populations' growing needs. . The major evolution involves changes in
10 work organisation, especially the development of multidisciplinary teams^{12 13}. The introduction of PC
11 teams has often been presented as an innovation that should improve GPs' working conditions²
12 through reduced workloads, the delegation of activities such as administrative tasks and shared
13 responsibilities ^{14 15}. If we refer to epidemiological models of work stress, such as Karasek's and
14 Siegrist's, quantitative and qualitative workload ("Job demand" for Karasek's model¹⁶ and "efforts" for
15 Siegrist's model^{17 18}), as well as social support are major components, and then it's clear that the shift
16 from a physician-centred model to a multidisciplinary one can have a positive impact on GP well-being.
17 However, implementing major changes also requires significant work by GPs with the transition from
18 a physician-centred culture to a team-based (organisational changes to workflows, role redistributions,
19 recruitment and training of new professional staff...)¹⁹⁻²¹. In addition, obstacles to integrating other
20 professionals into PC practices include GPs' fears of losing exclusivity in the patient-physician
21 therapeutic relationship and their difficulties accepting the transfer of tasks to others, both crucial
22 issues at the core of a GP's autonomy and, therefore, the very meaning of their profession²².

23 Despite many studies on how new models of care affect patient outcomes, , the literature on how it
24 affects GPs' job satisfaction and occupational stress remains sparse and sometimes contradictory^{21 23-}
25 ²⁶. While conceptual models and several studies pointed to an improvement in GPs' well-being during
26 teamwork²⁶⁻²⁹, several recent studies find no evidence of this. In 2018, Peikes founded no effect of PC
27 transformation on GPs' satisfaction and burnout²⁵. More specifically, the study by Casolino²¹ reported
28 that physicians practising in a teamlet (dyad GP-one staff member) were more likely to report burnout
29 compared to physicians practising neither in a teamlet nor in a team. He suggested that this question
30 be explored in greater depth, depending on the type of team. Finally, according Riisgaard, from the
31 GPs' perspective, the relationship with the patients was influenced negatively as the changes in the
32 working structure challenged the continuity of care. Additionally, they experienced an increase in the
33 workload caused by the delegation of tasks as they had to supervise their staff.²²

The present study aimed to investigate associations between GPs' occupational stress and job satisfaction and the professional composition of PC teams in 11 Western countries.

METHODS

This study was a secondary analysis of data from the 2019 Commonwealth Fund International Health (CWF) Policy Survey of Primary Care Physicians. The global aim of the survey was to collect PC providers' opinion on their country's health system ; and more precisely, to observe the preparedness to manage the care of patients with complex needs in the participant countries. The survey also collected information about GPs' satisfaction with aspects of their practice and occupational stress^{7 30}.

The 2019 survey's study protocol has been detailed elsewhere^{31 32}.

Population and data collection

GPs from Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom (UK) and the United States of America (USA) participated in the survey's 2019 edition^{31 32}. National samples of practising PC physicians (GPs or family physicians, internists and paediatricians also in Germany, Switzerland and the USA) were randomly drawn from government or private lists in each country or, for France, from a nationally representative panel of PC physicians³². Physicians were surveyed between January and June 2019 by post, via the internet or by telephone^{31 32}.

Data

A common questionnaire was reviewed by experts in each country and translated to ensure comparability across countries. As the questionnaire covered many sub-domains, it was impossible to integrate a complete validated tool for each of them. Consequently, the questionnaire included a minimum number of questions for each sub-domain. This was particularly true of well-being outcomes, which were assessed using a question developed for the study. Occupational stress was assessed using the question, "How stressful, if at all, is your job as a GP?" This was answered on a 5-point Likert scale (from "Extremely stressful to "Not at all stressful"). Job satisfaction was explored using the item, "How satisfied are you with practicing medicine?", and it was answered on a 5-point Likert scale (from "Extremely satisfied to "Not at all satisfied").

Information on the professional composition of PC teams stemmed from another study based on the same dataset (*submitted*). In summary, we created a classification of different PC staff compositions using the question, "In your main practice, do the following healthcare professionals work on your team to provide care for your patients?" The response options were 'Yes' or 'No' for each of the

1 following categories of staff: Nurse(s); Advanced practice nurse(s) (e.g. nurse practitioner[s]);
2 Physician(s)/medical assistant(s); Nutritionist(s)/dietician(s); Pharmacist(s); Psychologist(s)/mental
3 health professional(s); Physical therapist(s)/physiotherapist(s); and Social worker(s). First, we used a
4 hierarchical clustering algorithm, with complete linkage and a simple matching similarity coefficient,
5 to characterise the different types of organisations in each of the 11 countries according to their
6 compositions of professionals (in addition to GPs). Five clusters were identified. Second, the different
7 types of organisations were interpreted and denominated, according to the types of professionals
8 identified, as *Traditional*, *Multidisciplinary*, *Nurse-centred*, *Psychologist-centred* and *Physiotherapist-*
9 *centred* models. **Figure 1** describes the five clusters according to their compositions of different
10 healthcare professionals (percentage of practices working with each professional in each type of
11 practice). Please note that, according to the design of the study, the GP was systematically part of the
12 team.

13 Finally, we also selected variables for use as confounding factors in our statistical regression models, i.e.
14 physicians' socio-demographic characteristics (sex, age category), practice location (rural/urban area),
15 consultation durations (in four classes) and GP workforce size (full-time equivalent, FTE in quartiles,
16 this last variable was lacking for Sweden).

17

18 **Analysis**

19 The Commonwealth Fund provided country-specific sampling weights that accounted for the potential
20 over-representation of GPs in relation to certain factors (i.e. sex, age, practice location, medical
21 speciality). This allowed a more representative sample to obtain for epidemiological purpose. All the
22 analyses were weighted using these sampling weights.

23 First, descriptive statistics characterising the prevalence of occupational stress and job satisfaction in
24 each country were produced (weighted data). Second, we modelled the two dependent variables of
25 occupational stress and job satisfaction using ordered logistic regressions as a function of the type of
26 PC practice. Selected physician and practice characteristics were considered, too, including the
27 physician's sex and age category, practice location, consultation duration, FTE GPs and country. Each
28 independent variable was introduced separately and, in a second stage, jointly to build final models
29 (one final model for each dependent variable). The five-point Likert scales were transformed into three
30 levels of exposure "low, moderate and high". Finally, as we suspected that the type of practice typology
31 might have a differential effect depending on the number of FTE GPs^{33 34}, we conducted stratified
32 analyses for each class of FTE GPs. All statistical analyses were performed using Stata software (STATA
33 17.0).

1

2 RESULTS

3 Table 1 shows the sample characteristics for each participating country. Response rates ranged from
4 14% in Australia to 48% in the Netherlands, with a total of 13,200 GPs completing the survey
5 questionnaire (**Table 1**).

6 Occupational stress and job satisfaction among GPs (Table 1 and Figure 2)

7 About half of the GPs (48%) declared being exposed to a high level of occupational stress and 41% to
8 a moderate level. Distributions were similar regarding job satisfaction: 48.5% of GPs reported being
9 very satisfied with their job, and 10% were slightly satisfied.

10 Occupational stress was higher among female (no significant difference for job satisfaction) and the
11 youngest GPs. Job satisfaction was higher among the youngest and the oldest GPs. They also varied by
12 country. (Tables 2 & 3).

13 Associations with PC practices' professional composition

14 In our multivariate analyses, GPs' job satisfaction was higher when they worked in multidisciplinary
15 (OR = 1.43, 95%CI [1.26–1.62]), psychologist-centred or nurse-centred practices (OR = 1.24, 95%CI
16 [1.09–1.42] and OR = 1.18, 95%CI [1.02–1.635], respectively) than if they worked in traditional
17 practices. Stratified analyses according to the number of FTE GPs at the practice showed that the
18 association between GPs' job satisfaction and nurse-centred practices was only observed in the
19 smallest practices (FTE < 1.4) (**Table 4**). Job satisfaction was also higher among the youngest and oldest
20 GPs than among those aged 55–64 and in GPs located in rural areas. (**Table 2**).

21 The results were quite similar regarding occupational stress. In the multivariate analyses, GPs working
22 in multidisciplinary (OR = 0.77, 95%CI [0.68–0.87] and psychologist-centred practices reported lower
23 occupational stress (OR = 0.81, 95%CI [0.71–0.93]) than those working in traditional practices; the
24 results about nurse-centred practices were almost significant as well (OR = 0.87, 95%CI [0.76–1.00])
25 (**Table 3**). These associations were observed whatever the number of FTE GPs (**Table 4**). In addition,
26 occupational stress was higher among female GPs (OR = 1.17, 95%CI [1.08–1.27]), among younger and
27 middle-aged GPs (OR = 1.12, 95%CI [1.01–1.25] aged 35–44-year-olds and OR = 1.12, 95%CI [1.00–
28 1.24] aged 45–54-year-olds) and those with the shortest consultation durations (OR = 1.76, 95%CI
29 [1.50–2.26] for consultations between 5 and 10 minutes).

30 DISCUSSION

31 Summary

Our results showed that occupational stress and job satisfaction among GPs varied according to their personal characteristics, such as sex, age and country of work, but also according to their PC practice's organisational characteristics. Working in multidisciplinary teams was associated with higher well-being. This association, when compared to the traditional model, was observed in two of the models created by our typology: the multidisciplinary team model and the psychologist-centred model. It was also observed with nurse-centred practices but only for job satisfaction.

Strengths and limitations

The present study had some limitations. The first was the creation of our PC practice typology, which used a statistical construction to obtain a composite indicator. Using this kind of indicator can lead to imprecision, and the names given to the clusters were arbitrary and obviously reductive. Consequently, these results should be interpreted with the composition of the clusters in mind. In this study, we only took into account interprofessional collaboration within practices. However, interprofessional work also exists through integrated care networks and can also be a source of well-being. The self-reported nature of the outcomes make them subject to reporting biases. In addition, they were assessed using a single question rather than a validated questionnaire. This might have led to an overestimation of their frequency. Furthermore, there was a socio-cultural component inherent in these data (perception of stress and dissatisfaction may be differ according to the country). Survey participation rates varied from 19–47%. This could have led to an overestimation of frequency of job stress and dissatisfaction if the main focus of the survey was well-being at work. Thus, we believe that this bias was limited. However, data were weighted to account for differential non-response rates according to known demographic parameters, thus limiting the potential for selection bias as well. Finally, this was a cross-sectional study and, therefore, the observed statistical associations are not necessarily causal. The study had several strengths, notably in terms of sample size and international comparisons, thanks to standardized methodology and questionnaire. The circular phenomenon of data (when independent and dependent variables are self-perceived variables) was limited because the typology was built on factual variables. To the best of our knowledge, it is the largest study performed in the domain of stress and dissatisfaction at work among GPs.

Comparison with literature

These results confirmed previous studies in the literature showing that, despite some challenges linked to interprofessional collaboration, the inclusion of professionals other than GPs in PC practices might be a source of overall well-being³⁵⁻³⁷. The two organisational models in our study that were systematically associated with better well-being shared the characteristic of including several kinds of healthcare professionals. The psychologist-centred model included not just psychologists but also

1 different kinds of nurses, nutritionists and physiotherapists. Furthermore, these two organisational
2 models were also those that most often included psychologists. We can hypothesise that working with
3 psychologists in PC practices provides GPs with a degree of ease. Indeed, patients suffering from
4 mental health disorders often generate a high management burden for GPs (i.e. frequent and longer
5 consultations, social problems to address)³⁸. Being able to easily refer these patients to a psychologist
6 in the same location probably lightens this burden and, therefore, lowers the GP's occupational stress<sup>39-
7 41</sup>. This interpretation is in line with theoretical models of stress not only on the role of workload but
8 also on that of social support^{16 17}. Another potential interpretation is that practices incorporating
9 psychologists are more psychosocially oriented and, therefore, more in line with patients' needs, given
10 the high prevalence of mental health symptoms in the population. This may also be a source of
11 physicians' well-being referring to the meaning of work, which is often very important to the doctor¹⁰.
12 The nurse-centred practice model was associated with higher reported satisfaction among GPs, but
13 only in very small practices (including mainly solo practices). Integrating a nurse into a traditional
14 practice is often the first step towards team-based care. It seems that this step alone is sufficient to
15 improve GPs' satisfaction. However, for the biggest practices, it seemed that this was not the best
16 organisational model to adopt and that other combinations of PC professionals were more relevant in
17 terms of occupational well-being^{22 24}.

18 Other studies among PCPs have already shown lower well-being among women^{7 42-44}. The main reason
19 given was the difficulty of balancing private and professional life^{43 44}, but the link with gender may vary
20 depending on the reason for satisfaction⁴². With regard to age-related results, in a previous study
21 based on the 2015 CWF IHP survey, we have already found the same type of associations, namely that
22 lower satisfaction is observed among middle-aged doctors. In fact, the last age class (where satisfaction
23 is higher) is above 65, and this is probably due to a selection phenomenon. Those who stay at work are
24 the happiest!³⁰

25 Implications for research and practice. These results are interesting and relevant for public health
26 authorities and healthcare policies. The development of PC teams is one of the most frequently
27 adopted strategies by the many Western countries attempting to strengthen PC. It is a strategy that
28 has shown positive results in terms of the access, coordination, continuity and comprehensiveness of
29 PC (the four pillars of PC according to B. Starfield⁴⁵). Positive effects on patients' clinical outcomes have
30 also been demonstrated^{12 13}. In the current context of shortages of GPs and difficulties recruiting new
31 physicians to the profession, such positive results could have a significant impact on younger
32 generations of physicians, too, which will be critical for the sustainability of health systems². Finally,
33 these results could be used to highlight the benefits of team-based PC practice models and advocate
34 for their adoption. . The next step in analysing the links between PC teams and professionals' well-

1 being could be to determine the optimal distribution of roles among the different kinds of
2 professionals, to deliver the most appropriate care and to best satisfy healthcare staff. The present
3 study did not allow for such an analysis as the numbers of each type of professional were not collected.
4 A more in-depth study should look at the efficiency of care processes, patients' clinical outcomes and
5 professionals' well-being. With this in mind, it's worth noting that the data it's worth noting that this
6 study focuses on the presence (and the type) of multi-professional teams. They do not allow us to
7 explore whether there is real interprofessional collaboration and how it works (task transfer, task
8 delegation, etc.) which is a critical issue in this field. Finally, if the well-being of physicians is
9 fundamental, so too is that of other professionals. Several studies have shown high levels of
10 satisfaction among nurses working in primary care teams. Studies are much rarer for other
11 professionals.

12 The preservation of healthcare professionals' well-being is a critical issue for the sustainability of
13 primary care systems and should not be neglected. These results suggest optimistic perspectives.

14

15 **Additional information**

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17 Switzerland. CWF Health Policy Survey data were obtained for free from the Swiss Federal Office of
18 Public Health.

19 **Ethical approval :** Not applicable - Due to there being minimal to no risks to respondents in
20 participating in this particular survey, formal ethical approval was not necessary. The data transmitted
21 by the Swiss Federal Office of Public Health were considered anonymous.

22 **Competing interest:** they authors declare no competing interests

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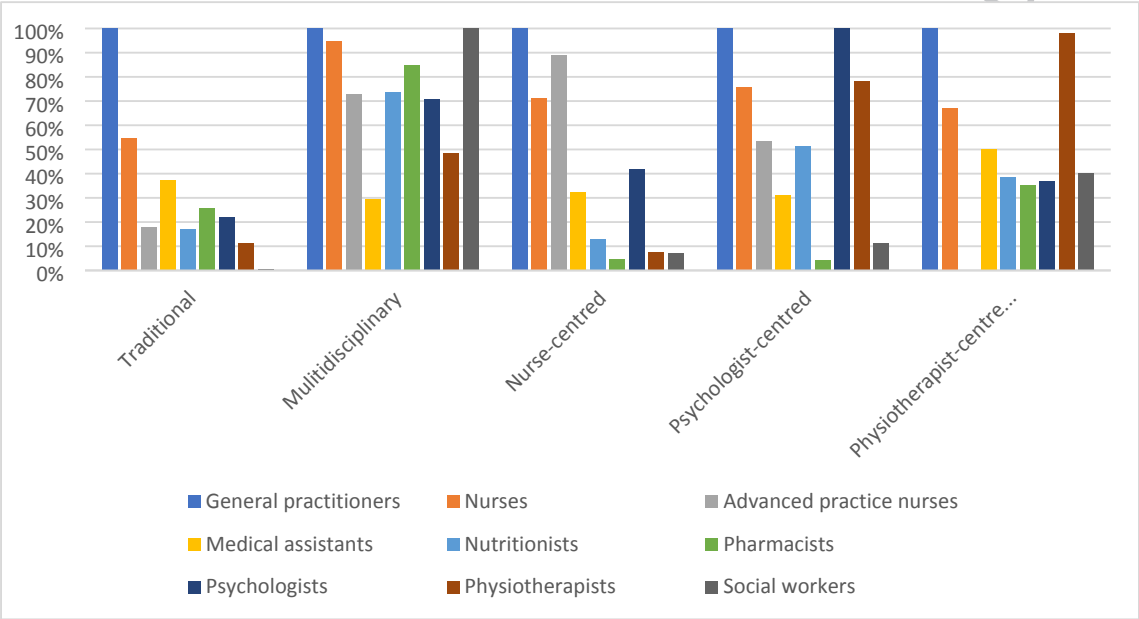
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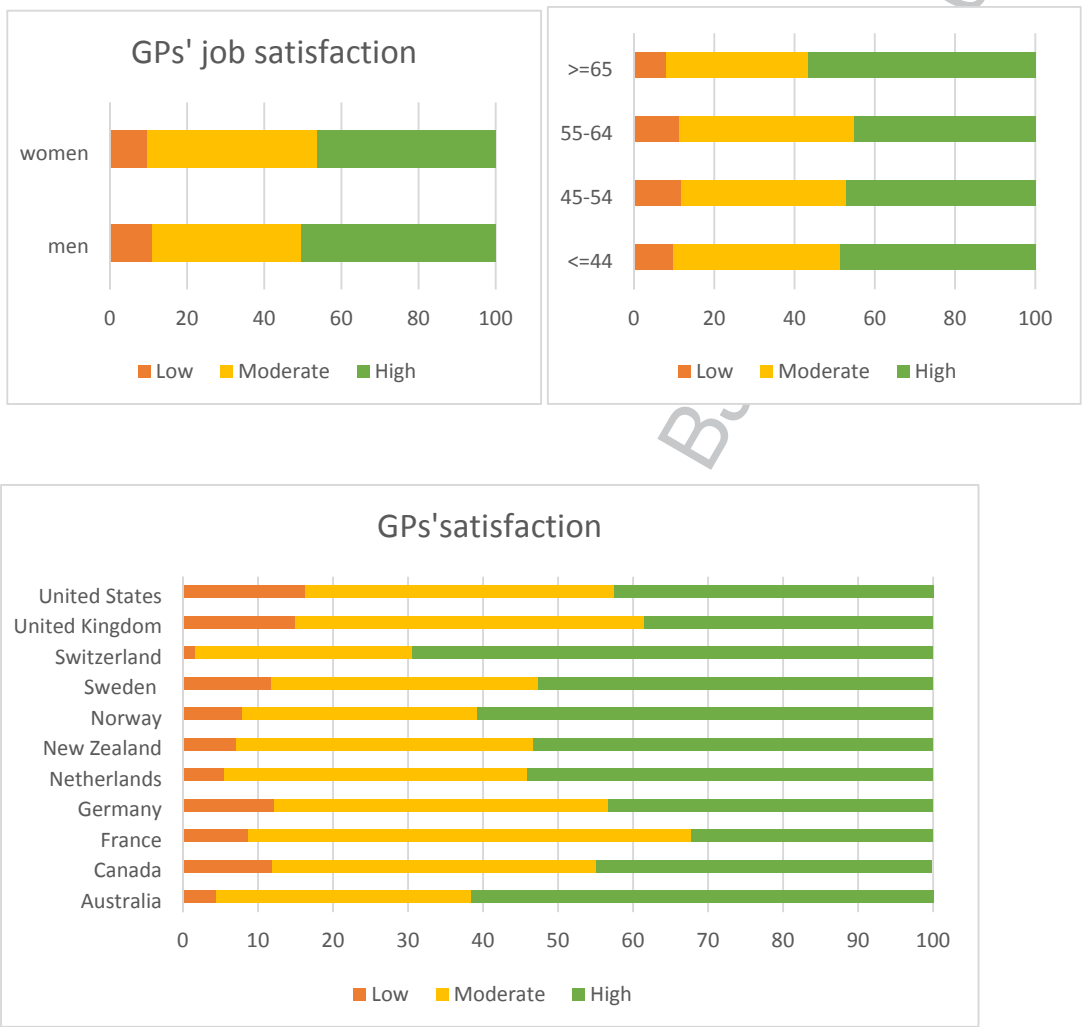
Figure 1. Staff composition of different PC practice types* (in addition to GPs) (n = 13,027 GPs).



* Percentage of practices working with each professional for each practice type

‡ The Traditional type represents 52% of the practices, the multidisciplinary type = 12%, the Nurses-centered type = 12%, The psychologist-centered type = 19%, the physiotherapist type = 5%

Figure 2. Job satisfaction and occupational stress (%) as reported by GPs, according to their sex and age in 11 Western countries.



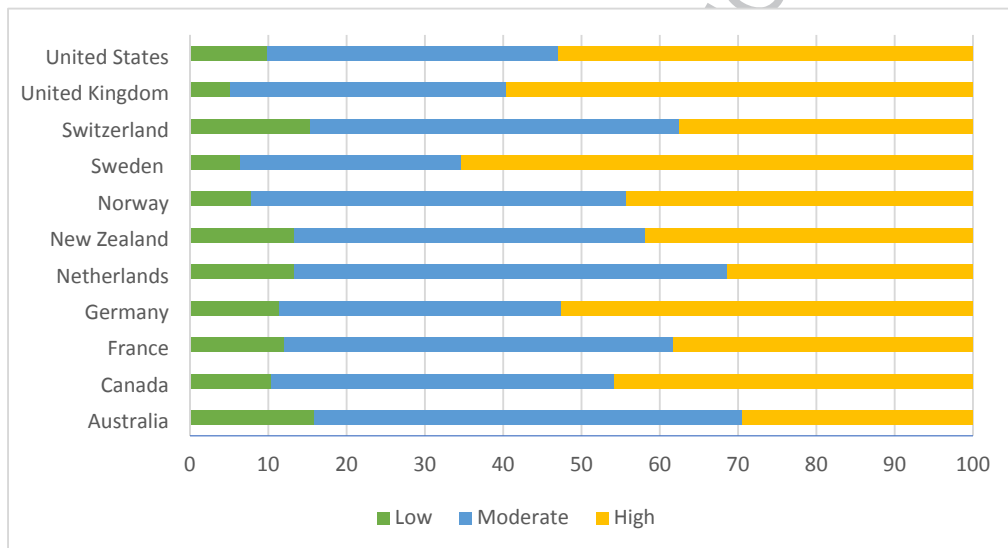
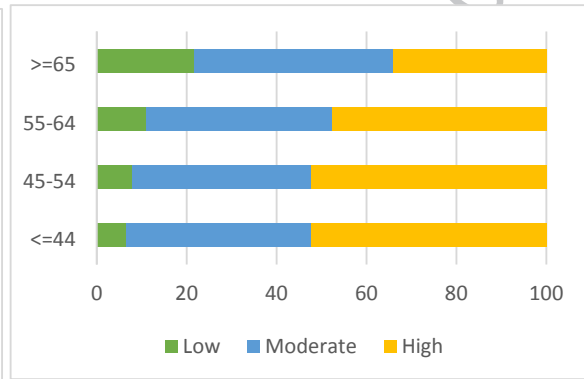
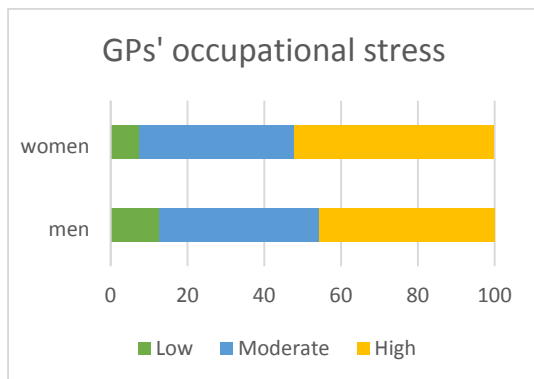


Table 1. GPs' personal characteristics, job satisfaction and occupational stress (weighted data).

	Australia	Canada	France	Germany	Netherlands	New Zealand	Norway	Sweden	Switzerland	United Kingdom	United States	Total
Final sample size	500	2569	1287	809	788	503	661	2411	1095	1001	1576	13200
Response rate (%)	14.5	39.3	20.0	14.7	48.7	16.2	33.8	42.2	42.8	26.8	21.2	29.1
Sex (%)												
Male	54.9	54.0	62.5	54.6	47.7	44.9	56.2	48.8	59.4	53.9	55.1	53.9
Female	45.1	45.9	37.5	45.3	52.2	55.0	43.7	51.1	40.5	46.0	44.8	46.0
Age (%) < 35–44 (years)	39.0	34.2	19.2	1.7	40.8	32.3	46.8	39.6	20.3	57.5	30.8	34.0
45–64	46.8	50.3	62.7	66.5	56.9	55.5	44.2	47.4	62.2	36.2	51.3	52.2
> 65	14.2	15.3	17.9	16.7	2.1	12.1	8.8	12.9	17.4	6.2	17.7	13.7
GPs' job satisfaction %												
Low	4.4	11.9	8.7	12.2	5.5	7.1	7.9	11.8	1.6	15.0	16.3	10.4
Moderate	34.1	43.2	59.1	44.5	40.4	39.6	31.4	35.6	29.0	46.5	41.2	41.1
High	61.6	44.7	32.2	43.3	54.1	53.3	60.7	52.6	69.4	38.5	42.8	48.5
GPs' occupational stress %												
Low	15.9	10.3	12.1	11.4	13.3	13.3	7.9	6.4	15.3	5.1	9.9	10.2
Moderate	54.7	43.9	49.6	36.1	55.3	44.9	47.9	28.3	47.2	35.3	37.1	41.2
High	29.4	45.8	38.3	52.5	31.3	41.8	44.2	65.3	37.6	59.6	53.1	48.5

Table 2. Association between job satisfaction and PC team composition—Ordered logistic regression.

			Univariate model		Multivariate model (N = 10,100)	
		Number	OR	[95%CI]	OR	[95%CI]
Sex	Male (Ref)	7136	1		1	
	Female	6004	0.89	[0.83–0.95]	0.90	[0.83–0.97]
Age (years)	55–65(Ref)	3845	1		1	
	< 35–44	4408	1.15	[1.06–1.25]	1.21	[1.09–1.34]
	45–55	3845	1.08	[0.97–1.16]	1.13	[1.01–1.25]
	> 65	1728	1.56	[1.40–1.75]	1.59	[1.40–1.81]
Area	Rural (Ref)	1798	1		1	
	Suburb	2694	0.70	[0.62–0.78]	0.77	[0.67–0.87]
	Small town	2785	0.82	[0.73–0.93]	0.84	[0.73–0.95]
	City	5650	0.80	[0.72–0.89]	0.87	[0.77–0.99]
Consultation time	> 20 min to ≤ 90 min (Ref)	2672	1		1	
	≥ 5 min to ≤ 10 min	2720	0.61	[0.55–0.68]	0.79	[0.68–0.93]
	> 10 min to ≤ 15 min	4269	0.83	[0.76–0.91]	1.10	[0.96–1.25]
	> 15 min to ≤ 20 min	3322	0.90	[0.82–1.00]	1.16	[1.01–1.33]
GP workforce (FTE)**	< 0.1 to 1.3 (ref)	2610				
	≤ 1.4 to 3	2497	1.10	[0.99–1.23]	1.12	[1.00–1.25]
	≤ 3 to 5	2379	1.05	[0.94–1.17]	1.17	[1.04–1.33]
	≤ 5 to 100	3075	1.07	[0.96–1.18]	1.18	[1.04–1.34]
Practice type	Traditional type (Ref)	6771	1		1	
	Multidisciplinary	1643	1.12	[1.01–1.24]	1.43	[1.26–1.62]
	Nurse-centred	1560	0.99	[0.90–1.11]	1.18	[1.02–1.35]
	Psychologist-centred	2447	1.23	[1.12–1.34]	1.24	[1.09–1.42]
	Physiotherapist-centred	992	0.98	[0.85–1.14]	0.98	[0.83–1.15]
Country	Australia (Ref)	500				
	Canada	2569	0.49	[0.40–0.59]	0.43	[0.35–0.53]
	France	1287	0.36	[0.29–0.44]	0.36	[0.29–0.45]
	Germany	809	0.46	[0.37–0.57]	0.65	[0.51–0.84]
	the Netherlands	788	0.75	[0.60–0.94]	0.93	[0.72–1.19]
	New Zealand	503	0.71	[0.56–0.91]	0.74	[0.57–0.95]
	Norway	661	0.91	[0.72–1.16]	0.84	[0.65–1.08]
	Sweden*	2411	0.63	[0.52–0.77]	-	-
	Switzerland	1095	1.43	[1.15–1.78]	1.51	[1.19–1.92]
	United Kingdom	1001	0.37	[0.30–0.46]	0.44	[0.35–0.56]
	United States	1576	0.42	[0.34–0.51]	0.38	[0.31–0.48]

Answer to the question about FTE / ¥ FTE: Full-time equivalents

*Swedish GPs did not answer to the question

Table 3. Associations between occupational stress and PC team composition—Ordered logistic regression

		Univariate model			Multivariate model (N = 10,088)	
		Number	OR	[95%CI]	OR	[95%CI]
Sex	Male (Ref)	7136	1		1	
	Female	6004	1.36	[1.28–1.46]	1.17	[1.08–1.27]
Age (years)	55–65 (Ref)	3845	1		1	
	35–44	4408	1.26	[1.16–1.38]	1.12	[1.01–1.25]
	45–55	3845	1.23	[1.12–1.35]	1.12	[1.00–1.24]
	> 65	1728	0.50	[0.45–0.56]	0.51	[0.45–0.58]
Area	Rural (Ref)	1798	1		1	
	Suburb	2694	1.15	[1.02–1.29]	1.04	[0.92–1.19]
	Small town	2785	1.19	[1.06–1.34]	1.03	[0.91–1.17]
	City	5650	1.29	[1.17–1.44]	1.00	[0.97–1.21]
Consultation time	> 20 min to ≤ 90 min (Ref)	2672	1		1	
	≥ 5 min to ≤ 10 min	2720	1.23	[1.11–1.37]	1.76	[1.50–2.06]
	> 10 min to ≤ 15 min	4269	0.95	[0.87–1.04]	1.31	[1.16–1.48]
	> 15 min to ≤ 20 min	3322	1.05	[0.96–1.16]	1.09	[0.96–1.25]
GP workforce (FTE)**	< 0.1 to 1.3 (Ref)	2610	1			
	≤ 1.4 to 3	2497	1.11	[1.00–1.23]	1.00	[0.89–1.12]
	≤ 3 to 5	2379	1.20	[1.07–1.33]	0.93	[0.83–1.05]
	≤ 5 to 100	3075	1.26	[1.14–1.39]	0.94	[0.83–1.06]
Practice type	Traditional type (Ref)	6771	1		1	
	Multidisciplinary	1643	0.85	[0.77–0.94]	0.77	[0.68–0.87]
	Nurse-centred	1560	1.34	[1.20–1.49]	0.87	[0.76–1.00]
	Psychologist-centred	2447	1.08	[0.98–1.18]	0.81	[0.71–0.93]
	Physiotherapist-centred	992	0.82	[0.71–0.95]	1.04	[0.88–1.23]
Country	Australia (Ref)	500	1		1	
	Canada	2569	1.87	[1.56–2.24]	2.15	[1.77–2.61]
	France	1287	1.42	[1.17–1.73]	1.63	[1.32–2.01]
	Germany	809	2.30	[1.85–2.84]	1.78	[1.39–2.28]
	the Netherlands	788	1.12	[0.91–1.39]	0.86	[0.68–1.10]
	New Zealand	503	1.55	[1.22–1.96]	1.49	[1.17–1.91]
	Norway	661	1.86	[1.50–2.32]	2.14	[1.69–2.71]
	Sweden*	2411	4.06	[1.06–1.58]	-	-
	Switzerland	1095	1.29	[1.15–1.78]	1.45	[1.16–1.81]
	United Kingdom	1001	3.32	[2.70–4.08]	2.59	[2.06–3.26]
	United States	1576	2.41	[1.99–2.91]	2.91	[2.36–3.59]

*Swedish GPs did not Answer to the question about FTE / ¥ FTE: Full-time equivalents

Table 4. Association between job satisfaction, occupational stress and PC team composition according to GP FTEs in the practice—Ordered logistic regression*.

GP workforce (FTE)**		< 0.1 to 1.4 (N = 2,610)		≤ 1.4 to 3 (N = 2,497)		≤ 3 to 5 (N = 2,379)		≤ 5 to 100 (N = 3,075)	
		Job satisfaction							
		OR	[95%CI]	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]
Practice type									
	Traditional type (Ref)	1	-	1	-	1	-	1	-
	Multidisciplinary	1.36	[0.94–1.99]	1.40	[1.01–1.95]	1.94	[1.48–2.54]	1.36	[1.12–1.64]
	Nurse-centred	1.59	[1.14–2.22]	0.91	[0.68–1.22]	1.23	[0.93–1.61]	1.16	[0.89–1.50]
	Psychologist-centred	1.29	[0.99–1.67]	1.11	[0.86–1.44]	1.14	[0.86–1.51]	1.37	[1.00–1.88]
	Physiotherapist-centred	0.77	[0.55–1.08]	1.24	[0.89–1.72]	0.68	[0.48–10.97]	1.19	[0.85–1.66]
		Occupational stress							
		OR	[95%CI]	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]
Practice type									
	Traditional type (Ref)	1	-	1	-	1	-	1	-
	Multidisciplinary	0.63	[0.44–0.91]	1.00	[0.72–1.40]	0.61	[0.47–0.79]	0.72	[0.62–0.91]
	Nurse-centred	0.96	[0.69–1.32]	0.95	[0.71–1.27]	0.83	[0.63–1.09]	0.79	[0.61–1.03]
	Psychologist-centred	0.75	[0.58–0.97]	1.00	[0.78–1.27]	0.76	[0.57–1.00]	0.72	[0.53–0.98]
	Physiotherapist-centred	0.83	[0.60–1.15]	1.27	[0.92–1.74]	1.31	[0.92–1.87]	0.89	[0.64–1.25]

¥ FTE: Full-time equivalents / *Models adjusted for sex, age category, area and country