

# Physicians who experience sickness certification as a work environmental problem: where do they work and what specific problems do they have? A nationwide survey in Sweden

Therese Ljungquist,<sup>1</sup> Britt Arrelöv,<sup>2</sup> Christina Lindholm,<sup>1</sup>  
Anna Löfgren Wilteus,<sup>1,3</sup> Gunnar H Nilsson,<sup>4</sup> Kristina Alexanderson<sup>1</sup>

**To cite:** Ljungquist T, Arrelöv B, Lindholm C, *et al*. Physicians who experience sickness certification as a work environmental problem: where do they work and what specific problems do they have? A nationwide survey in Sweden. *BMJ Open* 2012;**2**:e000704. doi:10.1136/bmjopen-2011-000704

► Prepublication history for this paper is available online. To view this file please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2011-000704>).

Received 29 November 2011  
Accepted 1 February 2012

This final article is available for use under the terms of the Creative Commons Attribution Non-Commercial 2.0 Licence; see <http://bmjopen.bmj.com>

For numbered affiliations see end of article.

## Correspondence to

Dr Therese Ljungquist;  
[therese.ljungquist@ki.se](mailto:therese.ljungquist@ki.se)

## ABSTRACT

**Objectives:** In a recent study, 11% of the Swedish physicians below 65 years dealing with sickness certification tasks (SCT) experienced SCT to a great extent as a work environment problem (WEP). This study aimed at exploring which SCT problems those physicians experienced and if these problems varied between general practitioners (GPs), psychiatrists, orthopaedists and physicians working at other types of clinics.

**Design:** A cross-sectional nationwide questionnaire study.

**Setting:** All physicians working in Sweden in 2008.

**Participants:** The 1554 physicians <65 years old, working in a clinical setting, having SCT and stating SCT to a great extent being a WEP.

**Outcome measures:** Frequency of possibly problematic situations or lack of time, reasons for sickness certifying unnecessarily long, experience of difficulties in contacts with sickness insurance offices, and severity of experienced problems.

**Results:** In all, 79% of this group of physicians experienced SCT as problematic at least once weekly, significantly higher proportion among GPs ( $p<0.001$ ) and psychiatrists ( $p=0.005$ ). A majority (at most 68.3%) experienced lack of time daily, when handling SCT, the proportion being significantly higher among orthopaedists ( $p=0.003$ , 0.007 and 0.011 on three respective items about lack of time). Among psychiatrists, a significantly higher proportion ( $p<0.001$ ) stated wanting a patient coordinator. Also, GPs agreed to a higher extent ( $p<0.001$ ) to finding 14 different SCT tasks as 'very problematic'.

**Conclusions:** The main problem among physicians who experience SCT to a great extent as a WEP was lack of time related to SCT. The proportion of physicians experiencing problems varied in many aspects significantly between the different work clinics; however, GPs were among the highest in most types of problems. The results indicate that measures for improving physicians' sickness certification practices should be focused on organisational as well as

## ARTICLE SUMMARY

### Article focus

- A study of the minority of physicians who state sickness certification tasks to a great extent being a work environment problem.
- What problems do these physicians experience in relation to sickness certification?
- Do the experienced problems vary with type of work clinic/specialty?

### Key messages

- A vast majority of these physicians experienced daily lack of time when handling sickness certification tasks.
- About half of these physicians found it very problematic to assess level of work incapacity, to manage the two roles as the patient's physician and as a medical expert, and to provide the Social Insurance Office with more extensive sickness certificates.
- Measures for improving physicians' sickness certification practices should be focused on organisational as well as professional levels and might need to differ between specialties.

### Strengths and limitations of this study

- The study was based on a questionnaire sent to all 37 000 physicians in a whole country, and the response rate (61%) could be regarded as relatively high.
- Only one question about work environment was included.

professional level and that the needs in these aspects differ between specialties.

## INTRODUCTION

Sickness absence during the last decades has become a growing problem in many countries.<sup>1 2</sup> The role of the physicians in the

sickness absence process has been highlighted, and several interventions to increase the quality of their work with sickness certification have been undertaken in many countries.<sup>3–7</sup>

In some studies, all cross-sectional, it has been revealed that physicians, especially general practitioners (GPs), experience sickness certification matters as problematic.<sup>8–15</sup> In a systematic review about GPs' attitudes towards sickness certification, the problems identified from the 18 included studies were classified into three themes: conflicts (eg, between physician and patient), role responsibilities (eg, unclear and/or conflicting roles) and barriers to good practice (both within and outside the healthcare system).<sup>8</sup> A study of the GPs and orthopaedic surgeons (n=822) in two Swedish counties found that they state the following as problematic: handling of disagreement with patients regarding the need for sickness certification, consultations involving prolongation of sick-leave spells initiated by a colleague and assessing work capacity and that the GPs in general had higher ORs for experiencing such problems.<sup>9</sup> Obstetricians (n=39) find handling of disagreement with patients regarding the need for sickness certification as a problem.<sup>13</sup> Löfgren *et al*<sup>10</sup> revealed yet another problematic issue for physicians (n=5455), deciding optimal duration and degree of sick leave and that this varied much with type of specialty/work clinic. In another study, we found that physicians (n=14210) find it problematic to assess patient's work capacity and to provide a prognosis regarding duration of work capacity.<sup>11</sup> A Norwegian study (n=308) found large differences regarding the perceptions towards sickness certification between groups of GPs.<sup>12</sup> In a qualitative study, Hussey *et al*<sup>14</sup> found that 67 GPs in the UK often experienced great problems related to sickness certification and contradictory demands from stakeholders. Edlund and Dahlgren<sup>15</sup> found in a Swedish qualitative study that the dominating experiences regarding sickness certification among the physicians interviewed (n=14) were diminished control, lack of time and increased demands. None of these studies include to what extent these tasks are experienced as work environmental problems (WEP). However, some problems related to sickness certification tasks (SCT) can be considered to be emotionally straining for physicians.<sup>14 16 17</sup> For instance, in the former study (n=3997), around 10% of the included GPs felt threatened by a patient and/or was worried about getting reported to the disciplinary board at least once a month.<sup>16</sup>

In Sweden, you need a medical certificate issued by a physician after the seventh day of a sick-leave spell. This certificate is the bases for decision of the employer or, after 2 weeks of sick leave, the Social Insurance Office (SIO) regarding if the person fulfils the criteria for sickness benefits. In consultations where sickness absence is considered, a physician has several tasks. In most Western countries, these tasks involve the following: to ascertain whether the disease or injury

impairs the patient's functional ability to the extent that the work capacity is also impaired in relation to her or his work demands; consider, together with the patient, the possible advantages and disadvantages of being sickness absent; determine the duration of sick leave and the medical investigations, treatments or other measures needed during the sick-leave period; determine if contact with other specialists, the SIO, occupational health services, the employer or other stakeholders is needed and if so, to establish adequate communication; issue a certificate that provides sufficient information for the employer or social insurance officer to decide whether the patient is entitled to sickness benefits and in need of further return-to-work measures and document assessments and actions taken.<sup>18</sup>

In a previous study (unpublished data), we concluded that half of the Swedish physicians aged <65 years, having with sickness certification consultations at least a few times a year, and who responded on a survey sent to all physicians working in Sweden experienced SCT as a WEP. Moreover, 11% even did this to a great extent. There were great differences between work clinics in these proportions; the highest were found among physicians working in primary care (GPs), psychiatry and orthopaedics. Work environment is a generic term for biological, medical, physiological, psychological, social and technological factors in the work situation or in the workplace environment that affect the individual. A person's experience of his or her work environment concerns the situation in general. Problems regarding specific work tasks can, on the other hand, be experienced without experiencing the work with those aspects as a WEP. On the contrary, professionals can even experience problems as stimulating.

The aim of the present study was to examine (1) what the minority of physicians who perceive SCT to a great extent as a WEP experience as problematic, (2) if these problem areas were correlated, and (3) if there were differences in stated problem areas between GPs, psychiatrists, orthopaedists and physicians working at other types of clinics.

## METHODS

A comprehensive questionnaire with 163 questions about the physicians' work with sickness certification was mailed to the home addresses of all the 36 898 physicians working and living in Sweden in October 2008.<sup>11</sup> The questionnaire was based on a previous questionnaire,<sup>10</sup> however revised and extended. It is based on several years of studies of sickness certification, questionnaires with open-ended answers, interviews, pilot studies and discussions with physicians, other relevant professionals and researchers.<sup>11</sup> A specific question (=‘the key question’ of this study) was included, concerning whether the physician perceived SCT as a WEP. The response alternatives were ‘To a great extent’/‘To some extent’/‘No’.

The questionnaire was administered by Statistics Sweden who sent out three reminders to non-responders.

The response rate was 60.6% (22 349 persons). The response rate was somewhat higher among women and older physicians. In the present study, the physicians aged up to 64 years, stating having consultations concerning sickness certification at least a few times a year and stating SCTs to a great extent being a WEP constituted the study group (n=1554, table 1).

Answers to the following five questions were analysed:

1. 'When handling sickness certification tasks, how often do you not have enough time a) with your patients, b) to manage patient-related aspects (e.g. issuing certificates, contacting other stakeholders, documentation, and meetings), c) for further education, supervision, or reflection?' ('Every day'/'About once a week'/'About once a month'/'A few times a year'/'Never or almost never'). The response alternatives were dichotomized to 'Every day' and all others.
2. 'How often in your clinical work do you...?' related to thirteen different concrete possibly problematic situations ('More than 10 times a week'/'6–10 times a week'/'1–5 times a week'/'About once a month'/'A few times a year'/'Never or almost never'). The response alternatives were dichotomized to 'At least once a week' and all others, except for the variable '...have time scheduled, alone or with colleagues, for supervision/feedback/reflection regarding sickness certification issues?', where the dichotomization instead was 'Never or almost never' and all others.
3. 'How often do you certify unnecessarily long sick-leave periods due to...?' followed by twelve different possible reasons ('Every day'/'About once a week'/'About once a month'/'A few times a year'/'Never or almost never'). The response alternatives were dichotomized to 'At least once a week' and all others.

4. 'How problematic do you generally find it to...?' followed by nineteen possibly problematic clinical situations ('Very'/'Fairly'/'Not very much'/'Not at all'). The response alternatives were dichotomized to 'Very problematic' and all others.
5. 'What difficulties, if any, do you experience in your contacts with the sickness insurance offices (SIO)?', followed by, first, the optional 'Have no difficulties in that context', and then seventeen different suggestions of possible perceived problems. Several boxes could be chosen.

For the above questions 1–4, the internal non-response rate, among the responders (n=14 210), was below 2%, with one exception: for the question 3 item 'How often do you certify unnecessarily long sick-leave periods due to lack of other adequate treatment and/or care provider?' (6.9%) had not answered. On the key question about WEP, 3.8% (535 individuals) did not answer.

Background information about age, sex and specialist status was provided by the National Board of Health and Welfare. In addition, information about other background factors was obtained from the following survey questions:

- ▶ At what type of clinic/practice do you mainly work (22 different alternatives, including 'None')?
- ▶ What is your highest level of medical education (Medical degree/Registered physician/In resident training/Specialist)?
- ▶ How long have you worked at your current place of work (<5 years/5–9 years/10 years or more)?
- ▶ How often in your daily clinical work do you have consultations including consideration of sickness certification (More than 20 times a week/6–20 times a week/1–5 times a week/About once a month/A few times a year)?

**Table 1** Study population, response rate and number and proportion of physicians in the study population and in the study group, that is, those experiencing sickness certification to a great extent as a work environment problem, stratified on different background factors

	Study population n	Responding physicians n (%)	Physicians <65 years dealing with sickness certification ≥ a few times a year n (%)	Physicians perceiving sickness certification tasks to a great extent as a work environment problem n (%)*
All	36 898	22 349 (60.6)	14 210 (38.5)	1554 (11.4)
Sex				
Male	20 936	12 259 (58.6)	7449 (35.6)	864 (11.6)
Female	15 946	10 085 (63.2)	6760 (42.4)	690 (10.2)
Missing	16	5 (31.3)	1 (0.0)	0 (0.0)
Age (years)				
20–44	14 462	8349 (57.7)	6172 (42.7)	606 (9.8)
45–64	19 898	12 110 (60.9)	8038 (40.4)	948 (11.8)
>65	2538	1890 (74.5)		
Specialist	26 242	16 300 (62.1)	9777 (37.3)	1126 (11.5)
Non-specialist	10 656	6049 (56.8)	4433 (41.6)	428 (9.7)

\*Proportion of all the physicians responding on the 'key question' (n=13 675) concerning sickness certification tasks as a work environmental problem.

- ▶ Do you and your colleagues at your clinic/practice have a workplace policy for handling matters related to sickness certification (Yes, and it's well established/Yes, but it's not well established/No/Don't know/Not applicable, don't work at a clinical unit)?
- ▶ Do you have support from your immediate manager at your practice/clinic regarding sickness certification cases (Yes, substantial support/Yes, some support/No/Not applicable, don't have a manager/Not applicable, don't work at a clinical unit)?

Based on the high proportion experiencing SCT to a great extent as a WEP among the GPs (21.4%), the psychiatrists (15.6%) and the orthopaedists (18.4%), answers were analysed separately for these groups and for all other types of clinics, respectively.

### Statistics

Descriptive statistics were calculated to describe the study group and to describe the problem areas stated by the highest proportions of the physicians.

$\chi^2$  Tests were used for testing differences between four different types of clinics.

Kendall's tau-b ( $\tau_b$ ) was used as a measure of association (a) between the answers on items included in questions 1–4 separately, (b) between the answers on the items in question 1 and the items in questions 2–4 and (c) between the answers on the items in question 1 and background variables. All analyses used the SPSS program, V.18.

The study was approved by the Regional Ethical Review Board of Stockholm.

## RESULTS

The distribution on background factors and of physician's answers regarding some basic questions, related to main work clinic, is shown in [table 2](#). More than half (55.5%) of this group of physicians were GPs. Among the physicians working in psychiatry, a majority (53.8%) were women, while the vast majority of the orthopaedists (80.0%) were men. The highest proportion of the younger age group (20–44 years of age) was found among the orthopaedists, while the highest proportion being board specialists was found among the GPs. All the orthopaedists had sickness certification consultations at least once a week. Less than half (40.8%) of the physicians worked at a clinic that had a joint policy regarding how to handle sickness certification cases, while more than half (56.4%) perceived at least some support from their immediate manager in sickness certification matters.

### Problem areas stated by the physicians

The problem areas stated by the highest proportion of the physicians, that is, at least 20%, are listed in [table 3](#), together with p values for significant differences between the physicians working at different clinic groups.

### Experience of lack of time regarding sickness certification issues

In this group of physicians, 74.5% stated that they never or almost never had time scheduled for supervi-

sion/feedback/reflection regarding sickness certification (a question 2 item). Lack of time at a daily basis was experienced by more than half of the physicians, and daily lack of time in patient-related tasks was most prevalent (68.3%, [table 3](#)). A significantly higher proportion of the orthopaedists stated lack of time in all four aspects compared with the other physicians.

### Experience of possibly problematic issues at least once a week

Among GPs and psychiatrists, a significantly higher proportion perceived SCT as problematic at least once a week compared with the other physicians. A high proportion (39.8%) experienced at least once weekly that a patient wanted to be on sick leave for another reason than disease or injury, and this was reported by a significantly higher proportion among the GPs compared with the other physicians. Many (35.6%) lacked a patient case manager at least weekly with a significantly higher proportion among the psychiatrists. Half (49.7%) of the orthopaedists stated that they sick-listed patients without a personal meeting at least once a week, while among the GPs, a significantly lower proportion stated this compared with the other physicians ([table 3](#)).

### Reasons for certifying unnecessary long sick-leave periods at least once a week

Waiting times for medical investigations were reported to the highest percentage as a reason for certifying unnecessary long sick-leave periods, and were stated by a high proportion of the orthopaedists (45.5%) and the GPs (37.9%). Other significant differences between the groups of physicians were that a significantly higher proportion of the orthopaedists (43.1%) and GPs (35.1%) sickness certified 'too long' due to 'waiting times for treatment' compared with the other groups ([table 3](#)).

### Situations reported as 'very problematic'

Many stated it 'very problematic' to assess the degree to which the reduced functional capacity limited a patient's work capacity (47.9%) and to manage the two roles of being a physician for the patient as well as a medical expert for the SIO and other authorities (45.4%). Among the GPs, a significantly higher proportion stated these two items as 'very problematic' (56.7% and 50.0%, respectively) compared with the other physicians. A significantly higher percentage of the GPs (48.4%) also stated it very problematic to provide a long-term prognosis about future work capacity of patients on sick leave compared with the other physicians. To provide the SIO with more extensive sickness certificates was stated as 'very problematic' by 44.9% in the study group ([table 3](#)).

### Reported problems in cooperation with the SIOs

A high proportion (87.1%) experienced problems in cooperation with the SIOs ([table 4](#)). The proportion was

**Table 2** Physicians who experienced sickness certification to a great extent as a work environment problem (study group, n=1554)

	GPs n=862 n (%)	Psychiatrists n=156 n (%)	Orthopaedists n=155 n (%)	All others n=381 n (%)	Total n=1554 n (%)
<b>Sex</b>					
Female	409 (47.4)	84 (53.8)	31 (20.0)	166 (43.6)	690 (44.4)
Male	453 (52.6)	72 (46.2)	124 (80.0)	215 (56.4)	864 (55.6)
<b>Age group</b>					
20–44 years	287 (33.3)	57 (36.5)	88 (56.8)	174 (45.7)	606 (39.0)
45–64 years	575 (66.7)	99 (63.5)	67 (43.2)	207 (54.3)	948 (61.0)
<b>What is your highest level of medical education?</b>					
Medical degree	18 (2.1)	7 (4.5)	2 (1.3)	24 (6.3)	51 (3.3)
Registered physician	38 (4.4)	3 (1.9)	0 (0.0)	12 (3.1)	53 (3.4)
In-resident training	146 (16.9)	42 (26.9)	41 (26.5)	73 (19.2)	302 (19.4)
Specialist	660 (76.6)	104 (66.7)	112 (72.3)	272 (71.4)	1148 (73.9)
<b>For how long have you been working at your current place of work?</b>					
<5 years	442 (51.8)	84 (54.5)	66 (42.6)	175 (46.4)	767 (49.8)
5–9 years	176 (20.6)	28 (18.2)	41 (26.5)	88 (23.3)	333 (21.6)
10 years or more	236 (27.6)	42 (27.3)	48 (31.0)	114 (30.2)	440 (28.6)
Missing	8 (0.9)	2 (1.3)	0 (0.0)	4 (1.0)	14 (0.9)
<b>How often in your daily clinical work do you have consultations including consideration of sickness certification?</b>					
More than 20 times a week	44 (5.1)	23 (14.7)	47 (30.3)	41 (10.8)	155 (10.0)
6–20 times a week	445 (51.6)	99 (63.5)	90 (58.1)	159 (41.7)	793 (51.0)
1–5 times a week	348 (40.4)	30 (19.2)	18 (11.6)	128 (33.6)	524 (33.7)
About once a month	24 (2.8)	2 (1.3)	0 (0.0)	43 (11.3)	69 (4.4)
A few times a year	1 (0.1)	2 (1.3)	0 (0.0)	10 (2.6)	13 (0.8)
Never or almost never	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<b>Do you and your colleagues at your clinic/practice have a workplace policy for handling matters related to sickness certification?</b>					
Yes, and it's well established	226 (26.4)	24 (15.4)	20 (13.1)	67 (17.8)	337 (21.9)
Yes, but it's not well established	189 (22.1)	22 (14.1)	21 (13.7)	60 (15.9)	292 (18.9)
No	362 (42.3)	88 (56.4)	90 (58.8)	184 (48.8)	724 (47.0)
Don't know	72 (8.4)	21 (13.5)	21 (13.7)	62 (16.4)	176 (11.4)
Do not work in a clinical unit	7 (0.8)	1 (0.6)	1 (0.7)	4 (1.1)	13 (0.8)
Missing	6 (0.7)	0 (0)	2 (1.3)	4 (1.0)	12 (0.8)
<b>Do you have support from your immediate manager at your clinic/practice regarding sickness certification cases?</b>					
Yes, extensive support	133 (15.5)	19 (12.3)	24 (15.5)	43 (11.4)	219 (14.2)
Yes, some support	380 (44.3)	63 (40.6)	66 (42.6)	144 (38.1)	653 (42.2)
No	277 (32.3)	62 (40.0)	63 (40.6)	158 (41.8)	560 (36.2)
Not applicable, do not have a manager	65 (7.6)	10 (6.5)	2 (1.3)	26 (6.9)	103 (6.7)
Do not work in a clinical unit	3 (0.3)	1 (0.6)	0 (0.0)	7 (1.9)	11 (0.7)
Missing	4 (0.5)	1 (0.6)	0 (0.0)	3 (0.8)	9 (0.6)

Number and proportion for background factors and for the physician's answers regarding some basic questions, stratified on work clinic.

significantly higher among the GPs (92.2%), while the proportion among the orthopaedists was significantly lower (78.5) compared with the other physicians. The problems experienced by the highest percentage were that contacts with the SIO were too time consuming (52.4%) and that there were difficulties getting through by phone (52.2%). The former was particularly frequently stated among orthopaedists (59.1%). The proportion of GPs choosing a suggested problem was significantly higher for 10 of the 17 available items. Among the psychiatrists, a significantly higher proportion chose the item: 'The patient is negative towards you contacting the SIO' compared with the other clinic groups.

### Correlations

There were at most moderate correlations ( $\tau_b \leq 0.587$ ) between the answers to the three items in question 1 (about lack of time) and between the answers to the items in question 2 (concerning frequency of problematic issues). For question 3, concerning sickness certifying longer than medically necessary, there was a high correlation between the answers to the item '...due to waiting times for medical investigations?' and '...due to waiting times for treatment?' ( $\tau_b = 0.712$ ,  $p < 0.001$ ).

The correlations between answers to the items concerning lack of time and answers to the items in questions 2–4 were low, below 0.300. The correlations between the items in question 1 and the background

**Table 3** Problem areas stated by at least 20% of the physicians who found sickness certification as a work environment problem to a great extent (n=1554)

	<b>GPs</b> <b>n=862</b> %	<b>Psychiatrists</b> <b>n=156</b> %	<b>Orthopaedists</b> <b>n=155</b> %	<b>All others</b> <b>n=381</b> %	<b>Total</b> <b>n=1554</b> %
Experience of lack of time					
Never or almost never have time scheduled for supervision/feedback/reflection regarding SC	<i>66.1*</i>	78.1	<b>93.5*</b>	<b>84.1*</b>	74.5
Daily time pressure in consultations with the patients	58.8	51.9	<b>69.3†</b>	54.0	58.0
Daily time pressure with patient-related aspects (issuing certificates, documentation, meetings...)	<i>65.4†</i>	75.0	<b>77.3‡</b>	68.2	68.3
Daily lack of time concerning further education, supervising, reflection	60.9	62.2	<b>72.1†</b>	59.8	61.8
Experience at least once a week...					
...sickness certification handling as problematic	<b>83.7*</b>	<b>87.8†</b>	77.1	<i>66.1*</i>	79.1
...a patient who wants to be on sick leave for reason other than work incapacity due to disease or injury	<b>44.3*</b>	38.1	33.6	<i>33.0†</i>	39.8
...turning down a patient who wants to be on sick leave	<b>22.8‡</b>	17.4	24.3	<i>16.0†</i>	20.7
...conflicts with patients about SC	28.1	27.1	33.6	<i>22.0‡</i>	27.1
...issuing sickness certificates to patients without seeing them	<i>20.2*</i>	28.4	<b>49.7*</b>	<i>19.0‡</i>	23.7
...wish for someone (eg, a coach or an advisor) who could coordinate measures implemented for patients	33.8	<b>55.0*</b>	35.1	31.8	35.6
Certify unnecessarily long sick-leave periods at least once a week due to...					
...waiting times for investigations by healthcare services	<b>37.9*</b>	27.1	<b>45.5*</b>	<i>22.0*</i>	33.6
...waiting times for investigations by the SIO	<b>26.3*</b>	27.1	<i>13.2†</i>	<i>14.9*</i>	22.3
...waiting times for treatment	<b>35.1*</b>	25.3	<b>43.1*</b>	<i>20.8*</i>	31.4
Find it very problematic to...					
...handle sickness certification of patients	33.1	34.7	30.5	29.6	32.1
...assess whether a patient's functional capacity is reduced	<b>46.8*</b>	<i>28.5‡</i>	<i>22.9*</i>	<i>26.3*</i>	37.6
...assess whether the reduced functional capacity is due to disease or injury	<b>33.7*</b>	<i>20.5‡</i>	<i>14.9*</i>	<i>20.8*</i>	27.3
...assess the degree to which the reduced functional capacity limits a patient's work capacity	<b>56.7*</b>	<i>40.1‡</i>	<i>36.4†</i>	<i>35.6*</i>	47.9
...suggest a plan of action and/or measures to be taken during the sick leave	21.0	<i>12.5†</i>	<b>27.2‡</b>	21.0	20.8
...provide a long-term prognosis about the future work capacity of patients on sick leave	<b>48.4*</b>	39.1	35.7	<i>34.9</i>	42.9
...manage the two roles as the patient's treating physician and a medical expert for the SIO and other authorities	<b>50.0*</b>	40.1	37.9	<i>40.0‡</i>	45.4
...discuss possible changes in lifestyle and life circumstances with a patient who you sickness certify	20.7	17.3	<b>28.9†</b>	19.0	20.8
...discuss and know how to deal with other psychosocial problems when handling a patient on sick leave	27.0	<i>14.6*</i>	32.9	27.3	26.4
...decide whether to certify a prolongation of a sick-leave period initially certified by another physician	<b>44.2*</b>	<i>30.0‡</i>	<i>29.2†</i>	36.5	39.4
...assess the optimal duration and degree of sickness absence	<b>41.1*</b>	33.8	<i>24.7*</i>	<i>31.7†</i>	36.4
...handle situations having different opinion from a patient about the need for sick leave	<b>39.2*</b>	29.6	<i>27.9‡</i>	34.2	35.9
...issue sickness certificates for the SIO	34.0	30.3	34.6	34.9	33.9
...provide the SIO with more extensive certificates, for example, for disability pension	45.1	37.5	45.3	47.3	44.9

Proportion of physicians who experienced different problems regarding SC, stratified on type of work clinic. Figures in bold = significantly higher proportion compared with the other clinic groups; figures in italics = significantly lower proportion compared with the other clinic groups. The internal non-response rate was below 2%.

\*Highly significant difference compared with physicians working at other types of clinics (p<0.001).

†Significant difference compared with physicians working at other types of clinics (p<0.01).

‡Significant difference compared with physicians working at other types of clinics (p<0.05).

SC, sickness certification; SIO, Social Insurance Office.

**Table 4** Problems in cooperation with SIO, proportions per work clinic among physicians who experienced sickness certification to a great extent as a work environment problem (n=1554)

	<b>GPs</b> n=851 %	<b>Psychiatrists</b> n=152 %	<b>Orthopaedists</b> n=149 %	<b>All others</b> n=360 %	<b>Total</b> n=1512 %
What difficulties, if any, do you experience in your contacts with the SIO?					
Experience difficulties in my contacts with the SIO	<b>92.2*</b>	88.8	<i>78.5*</i>	<i>77.8*</i>	87.1
The contacts takes too much time	52.1	57.9	59.1	48.1	52.4
It's difficult to find out who to talk to	<b>42.9*</b>	32.9	<i>23.5*</i>	34.4	38.0
It's difficult to get through by phone	<b>57.9*</b>	51.3	<i>37.6*</i>	45.0	52.2
The SIO staff do not contact you, even if you ask them to	<b>37.4*</b>	27.0	<i>13.4*</i>	24.7	31.0
The SIO doesn't coordinate rehabilitation measures	<b>28.9‡</b>	32.9	<i>16.8†</i>	21.9‡	26.5
The SIO doesn't contact the patients	<b>17.4‡</b>	18.4	<i>8.1†</i>	13.3	15.6
You experience a negative attitude	<b>13.5*</b>	<b>23.7‡</b>	14.1	21.1	16.4
Ambiguities concerning matters of confidentiality	11.4	13.8	6.9‡	14.2	11.8
Patients are often assigned new SIO case officers	<b>57.5*</b>	<b>55.9‡</b>	<i>17.4*</i>	28.3	46.4
SIO case officers question you/your assessments	38.0	42.1	<i>27.5‡</i>	31.9	35.9
Insurance medicine consultants question you/your assessments	<b>46.5*</b>	40.1	<i>16.1*</i>	26.1	38.0
It's difficult to convey information through the pre-printed SIO forms for medical certificates	<b>30.9†</b>	27.6	<i>19.5‡</i>	<i>23.6‡</i>	27.7
Different interpretations of the new national sickness certification guidelines	<b>7.8†</b>	0.7	0.8	2.6	11.9
The patient is negative towards you contacting the SIO	1.9	<b>6.6*</b>	2.7	0.6	2.1

Figures in bold = higher proportion compared with the other clinic groups, figures in italics = lower proportion compared with the other clinic groups.

\*Highly significant difference compared with physicians working at other types of clinics (p<0.001).

†Significant difference compared with physicians working at other types of clinics (p<0.01).

‡Significant difference compared with physicians working at other types of clinics (p<0.05).

GP, general practitioner; SIO, Social Insurance Office.

variables sex, age group, educational level, being a specialist or not, number of years at the workplace and frequency of sickness certification consultations were likewise below 0.300.

## DISCUSSION

In this study of physicians who experienced SCT to a great extent being a WEP, we found that (a) a majority (up to 68.3%) daily experienced lack of time when handling SCT and (b) almost half found it very problematic to assess level of work incapacity, to manage the two roles as the patient's physician and the role as a medical expert in relation to authorities, and to provide the SIO with more extensive certificates, for example, for disability pension. The experienced time pressure related to SCT could be related both to professional competence and to the healthcare organisation and was reported by a high proportion of the orthopaedists. The latter problems seem related mostly to professional competence and were reported by a high proportion of the GPs. As the highest correlation figures found between the three items regarding lack of time and the other investigated questions and background variables were all below 0.300, other factors than those studied here must have influence on the physician's experiences of time pressure.

### Comparisons with the literature

There were large variations in how the physicians had answered depending on type of work clinic. Our results

confirm the standpoint of physicians experiencing many problems related to SCT, as revealed in several studies.<sup>8–15</sup> The proportion of experiencing problems was, however, much higher in this study group compared with earlier found proportions<sup>9–11</sup> which underlines that this is a special group.

Several cross-sectional questionnaire studies of physicians have shown that psychosocial work-related problems differ between specialties, which is in line with our findings. In one such study, it was found that GPs had higher ORs for reporting job strain as well as perception of overload at work compared with hospital physicians.<sup>19</sup> In another study of a randomly selected third of the Finnish physicians, burnout varied significantly between specialties.<sup>20</sup> Leigh and coworkers<sup>21</sup> found that career satisfaction differed between specialties in a representative sample of American physicians. However, none of these studies related WEP to SCTs.

Work conditions presumably differ highly between different types of clinics due to patient's diagnoses, patient characteristics, workload and work organisation. According to a recent literature review, however, there is today no evidence of any patient-related factor influencing physician's sickness certification practices.<sup>22</sup> Little is known about the effect of workload on physician's sickness certification practices. What is known is that different specialties accounts for varying status level.<sup>23</sup>

The most frequently stated problem area in our study was lack of time. For instance, the type and amount of

information requested in the forms for sickness certification has increased in the last years. Time pressure has been described as one of the main factors involved in physicians' experience of stress<sup>24 25</sup> or job satisfaction.<sup>26</sup> Interestingly, the proportion among the GPs in our study stating daily time pressure with patient-related aspects and also for stating never or almost never having time scheduled for supervision/feedback/reflection related to sickness certification matters was significantly *lower* compared with the other clinic groups.

Most of the previous studies have included only GPs and/or have small or selected samples. In our study, all physicians living and working in Sweden were addressed. Moreover, we had a specific question explicitly asking about perceiving SCT as a WEP. In this study, we wanted to address any differences in the precise perception of SCT as a WEP to a great extent, that is, we were interested in perceptions of WEP concerning sickness certification in particular, something that these earlier studies did not study.

That as many as 11% of the responding physicians having SCT perceive this as a great WEP is alarming. At this stage, we do not know what might be the consequences of this, for their health and well-being or for the patients, or if the proportion of physicians perceiving SCT as a WEP is increasing or decreasing. More knowledge is warranted about this.

### Strengths and limitations

This is the first time a specific question about experiencing SCT as a WEP was included in a questionnaire to physicians. Another strength is that all physicians working in a whole country were included. The questionnaire is based on several years of studies of sickness certification; questionnaires with open-ended answers, interviews, pilot studies and discussions with physicians, other relevant professionals and researchers, and has high face validity. The large differences between physicians working at different types of clinics also confirm the validity of the questionnaire. Our results confirm a common opinion of orthopaedists as being self-confident in matters related to medical status, even in relation to colleagues, but finding discussions with the patients about lifestyle and psychosocial matters more challenging. For the psychiatrists, their self-confidence in specific disease-related issues was similarly high, but even so in issues more related to discussions with the patients (table 3).

The study group was representative for all physicians in Sweden as far as age and proportion of specialists were concerned. As often in questionnaire studies, women and older persons had a slightly higher response rate and the same goes for specialists. One reason for lower response rate among the younger in this study might be changes of addresses due to internship and residency. We have no reason to believe that the attrition rate was associated with the key question, that is, SCT as a WEP, which was the second last question in the long questionnaire. We cannot know to what extent there was a bias in partici-

pation with regard to the here studied questions. As in all questionnaire studies, we do not know how the responders have interpreted the posed questions.

### Implications for healthcare and further research

An association between physicians' well-being and a high quality in healthcare has been stressed by several authors.<sup>27–29</sup> It seems important to address the problems related to SCT experienced by physicians in order to improve their psychosocial work environment and in order to improve the sickness certification process. Among GPs, psychiatrists and orthopaedists, the need for improvements of the work situation seems most urgent. Efforts for such improvements should involve educational and organisational changes in the particular clinics as well as at management and authority levels. For example, the cooperation between physicians and the SIO needs to be facilitated, but as problems related to the SIO were stated by a significantly lower proportion of the orthopaedists, such measures might not facilitate their work regarding sickness certification; for them, instead measures for releasing time appears to be the most important issue. For GPs, on the other hand, time pressure was not as evident, but instead professional issues seemingly were most urgent, together with improvements in cooperation with the SIO. The importance of actions from authorities as well as from managements in order to support physicians in their professional role has been pointed out.<sup>29–33</sup> For the psychiatrists, the most evident need was someone coordinating measures for the patients. More knowledge is warranted on factors that make physicians experiencing SCT as a WEP.

### CONCLUSIONS

A high proportion of physicians who experience SCT to a great extent as a WEP state lack of time related to sickness certification. The proportion of physicians experiencing different type of problems varied much between the different work clinics. The results indicate that measures for improving physicians' sickness certification practices need to be focused on organisational as well as professional levels and that the needs in these aspects differ between specialties.

### Author affiliations

<sup>1</sup>Division of Insurance Medicine, Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden

<sup>2</sup>Stockholm County Council, Stockholm, Sweden

<sup>3</sup>Division of Neuropediatrics, Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden

<sup>4</sup>Division of Family Medicine, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Huddinge, Sweden

**Contributors** TL, corresponding author, have had the main responsibility for design, analyses and preparation of the manuscript; BA, CL, ALW and GHN were all deeply involved in the process of analysing and discussing methods and manuscript and KA was engaged in every process of the work. All authors have read and approved the final manuscript.

**Funding** The study was financially supported by AFA Insurance, Sweden (dnr 090280), and the Swedish Council for Working Life and Social Research (dnr 2007-1762 and 2009-1758).

**Competing interests** None.

**Ethics approval** The study has been approved by the Regional Ethics Committee at Karolinska Institutet, Stockholm, Sweden (diary number 2008/795-31).

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data sharing statement** No additional data available.

## REFERENCES

- OECD. *Sickness, Disability and Work: Breaking the Barriers*. Paris: Organisation for Economic Co-operation and Development, OECD Publishing, 2009.
- Aylward M, Sawney P. Support and rehabilitation—restoring fitness for work. In: Palmer K, Cox R, Brown I, eds. *Fitness for Work: The Medical Aspects*. New York: Oxford University Press, 2006.
- Cohen D. *The Sickness Certification Consultation in General Practice [MD]*. Cardiff: Thesis, Cardiff University, 2008.
- Osteras N, Gulbrandsen P, Benth JS, et al. Implementing structured functional assessments in general practice for persons with long-term sick leave: a cluster randomised controlled trial. *BMC Fam Pract* 2009;10:31.
- Faber E, Burdorf A, van Staa AL, et al. Qualitative evaluation of a form for standardized information exchange between orthopedic surgeons and occupational physicians. *BMC Health Serv Res* 2006;6:144.
- Mortelmans AK, Donceel P, Lahaye D, et al. Does enhanced information exchange between social insurance physicians and occupational physicians improve patient work resumption? A controlled intervention study. *Occup Environ Med* 2006;63:495–502.
- Skaner Y, Nilsson GH, Arrelöv B, et al. Use and usefulness of guidelines for sickness certification: results from a national survey of all general practitioners in Sweden. *BMJ Open* 2011;1:e000303.
- Wynne-Jones G, Mallen C, Main C, et al. What do GPs feel about sickness certification? A systematic search and narrative review. *Scand J Prim Health Care* 2010;28:67–75.
- Arrelöv B, Alexanderson K, Hagberg J, et al. Dealing with sickness certification—a survey of problems and strategies among general practitioners and orthopaedic surgeons. *BMC Public Health* 2007;7:273.
- Löfgren A, Arrelöv B, Hagberg J, et al. Frequency and nature of problems associated with sickness certification tasks: a cross sectional questionnaire study of 5455 physicians. *Scand J Prim Health Care* 2007;25:178–85.
- Lindholm C, Arrelöv B, Nilsson G, et al. Sickness-certification practice in different clinical settings; a survey of all physicians in a country. *BMC Public Health* 2010;10:752.
- Gulbrandsen P, Hofoss D, Nylenna M, et al. General practitioners' relationship to sickness certification. *Scand J Prim Health Care* 2007;25:20–6.
- Larsson C, Sydsjö A, Alexanderson K, et al. Obstetricians' attitudes and opinions on sickness absence and benefits during pregnancy. *Acta Obstet Gynecol Scand* 2006;85:165–70.
- Hussey S, Hodinott P, Wilson P, et al. Sickness certification system in the United Kingdom: qualitative study of views of general practitioners in Scotland. *BMJ* 2004;328:88.
- Edlund C, Dahlgren L. The physician's role in the vocational rehabilitation process. *Disabil Rehabil* 2002;24:727–33.
- Swartling MS, Hagberg J, Alexanderson K, et al. Sick-listing as a psychosocial work problem: a survey of 3997 Swedish physicians. *J Occup Rehabil* 2007;17:398–408.
- Timpka T, Hensing G, Alexanderson K. Dilemmas in sickness certification among Swedish physicians. *Eur J Public Health* 1995;5:215–19.
- Löfgren A. *Physician's Sickness Certification Practices [PhD thesis]*. Stockholm: Karolinska Institutet, 2010.
- Virtanen P, Oksanen T, Kivimäki M, et al. Work stress and health in primary health care physicians and hospital physicians. *Occup Environ Med* 2008;65:364–6.
- Olkinuora M, Asp S, Juntunen J, et al. Stress symptoms, burnout and suicidal thoughts in Finnish physicians. *Soc Psychiatry Psychiatr Epidemiol* 1990;25:81–6.
- Leigh JP, Tancredi DJ, Kravitz RL. Physician career satisfaction within specialties. *BMC Health Serv Res* 2009;9:166.
- Söderberg E, Lindholm C, Kärholm J, et al. Läkares sjukskrivningspraxis: en systematisk litteraturoversikt: Socialdepartementet (In Swedish). *SOU* 2010;107:2010.
- Norredam M, Albus D. Prestige and its significance for medical specialties and diseases. *Scand J Public Health* 2007;35:655–61.
- Cohen JS, Patten S. Well-being in residency training: a survey examining resident physician satisfaction both within and outside of residency training and mental health in Alberta. *BMC Med Educ* 2005;5:21.
- Cohen JS, Leung Y, Fahey M, et al. The happy docs study: a Canadian Association of Internes and Residents well-being survey examining resident physician health and satisfaction within and outside of residency training in Canada. *BMC Res Notes* 2008;1:105.
- Linzer M, Konrad TR, Douglas J, et al. Managed care, time pressure, and physician job satisfaction: results from the physician workforce study. *J Gen Intern Med* 2000;15:441–50.
- Klein J, Frie KG, Blum K, et al. Psychosocial stress at work and perceived quality of care among clinicians in surgery. *BMC Health Serv Res* 2011;11:109.
- Wallace J, Lemaire J, Ghali W. Physician wellness: a missing quality indicator. *Lancet* 2009;374:1714–21.
- McGlone SJ, Chenoweth IG. Job demands and control as predictors of occupational satisfaction in general practice. *Med J Aust* 2001;175:88–91.
- von Knorring M, Sundberg L, Löfgren A, et al. Problems in sickness certification of patients: a qualitative study on views of 26 physicians in Sweden. *Scand J Prim Health Care* 2008;26:22–8.
- von Vultee PJ, Axelsson R, Arnetz B. The impact of organisational settings on physician wellbeing. *Int J Health Care Qual Assur* 2007;20:506–15.
- Riley GJ. Understanding the stresses and strains of being a doctor. *Med J Aust* 2004;181:350–3.
- Visser MR, Smets EM, Oort FJ, et al. Stress, satisfaction and burnout among Dutch medical specialists. *CMAJ* 2003;168:271–5.

**STROBE 2007 (v4)Statement—Checklist of items that should be included in reports of *cross-sectional studies***

<b>Section/Topic</b>	<b>Item #</b>	<b>Recommendation</b>	<b>Reported on page #</b>
<b>Title and abstract</b>	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	Title page
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
<b>Introduction</b>			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
<b>Methods</b>			
Study design	4	Present key elements of study design early in the paper	5-8
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-8
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5-6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7-8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	7-8
Bias	9	Describe any efforts to address potential sources of bias	-
Study size	10	Explain how the study size was arrived at	Not applicable
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8
		(b) Describe any methods used to examine subgroups and interactions	8
		(c) Explain how missing data were addressed	-
		(d) If applicable, describe analytical methods taking account of sampling strategy	Not applicable
		(e) Describe any sensitivity analyses	Not applicable
<b>Results</b>			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Table 1, p.6
		(b) Give reasons for non-participation at each stage	Not applicable

		(c) Consider use of a flow diagram	-
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table 2, p. 10-11
		(b) Indicate number of participants with missing data for each variable of interest	6, 10-11, 12, Table 3, p.13
Outcome data	15*	Report numbers of outcome events or summary measures	Not applicable
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	Not applicable
		(b) Report category boundaries when continuous variables were categorized	7-8
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not applicable
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	8
<b>Discussion</b>			
Key results	18	Summarise key results with reference to study objectives	18
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	19
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	18-20
Generalisability	21	Discuss the generalisability (external validity) of the study results	18-20
<b>Other information</b>			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	20

\*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at [www.strobe-statement.org](http://www.strobe-statement.org).