

# BMJ Open

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Journal:	BMJ Open
Manuscript ID	bmjopen-2016-011316
Article Type:	Research
Date Submitted by the Author:	30-Jan-2016
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<b>Primary Subject Heading</b>:	Occupational and environmental medicine
Secondary Subject Heading:	General practice / Family practice
Keywords:	GENERAL MEDICINE (see Internal Medicine), HEALTH SERVICES ADMINISTRATION & MANAGEMENT, OCCUPATIONAL & INDUSTRIAL MEDICINE, PAIN MANAGEMENT, PRIMARY CARE, PUBLIC HEALTH

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**An international comparison of physicians’ assessments of work capacity in patients with severe subjective health complaints**

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## ABSTRACT

**Objectives:** A comparison of appraisals made by GPs in France and occupational physicians and insurance physicians in the Netherlands to Scandinavian GPs on work capacity in patients with severe subjective health complaints.

**Setting:** GPs in France and OPs/IPs in the Netherlands were gathered to watch nine authentic video recordings from a Norwegian general practice.

**Participants:** 46 GPs in France and 93 OPs/IPs in the Netherlands invited to a full day course on subjective health complaints.

**Outcomes:** Recommendation of sick leave (full or partial) or not for each of the patients.

**Results:** Compared to Norwegian GPs, sick leave was less likely to be granted by Swedish GPs (OR 0.51, (95% CI 0.30-0.86) and by Dutch OPs/IPs (OR 0.53, 95% CI 0.37-0.78). In the adjusted analyses, the differences between Swedish and Norwegian GPs maintained (OR 0.43, 95% CI 0.23-0.79). This was also valid for the differences between Dutch and Norwegian physicians (OR 0.55, 95% CI 0.36-0.86). Overall, compared to the GPs, the Dutch OPs/IPs were less likely to grant sick leave (OR 0.60, 95% CI 0.45-0.87).

**Conclusion:** Swedish GPs and Dutch OPs/IPs were less likely to grant sick leave to patients with severe subjective health complaints compared to GPs from Norway, while GPs from Denmark and France were equally likely to grant sick leave as the Norwegian GPs. We suggest these findings may be due to guidelines on sick listing and on patients with severe subjective health complaints which exist in Sweden and the Netherlands respectively. Also differences in working conditions, relationship to the patients, and training of specialists in occupational medicine may impact on the results. An important feature of this study is however a similar pattern of which patients should be sick-listed or not among the physicians in all countries, suggesting unrevealed factors in the physicians' decision making.

ARTICLE SUMMARY

Strengths and limitations of this study

- This is the first study where physicians from five countries assess work capacity of the same patients
- This is the first study to compare sick leave appraisals between physicians with different roles, i.e. the dual role of GP as care provider and gatekeeper compared to the role of OP/IP as gatekeeper only
- The study design used video vignettes that reflect ‘real-life’ better than written vignettes often used in training
- The vignettes were translated into different languages which may lose small nuances in the discussions between the patient and the physician
- Subtitles may draw the attention away from the non-verbal communication on the vignettes

WHAT THIS STUDY ADDS

In most countries, the general practitioners (GPs) are responsible for issuing most of the sick certifications. The role of the GP in the sick listing process is unclear. In some countries, the medical premises for sickness absence are provided by occupational physicians or insurance physicians and separated from the treating physician.

This study compares decisions on sick listing by physicians from different countries and different specialties on patients with severe subjective health complaints. It suggests that national guidelines, training in occupational health and the physicians’ working settings may impact on decisions on sick leave.

A similar pattern of sick listing practices was observed across all participating physicians indicating unrevealed factors that may be of importance in the physicians’ assessments.

## INTRODUCTION

The sickness absence rate is of great concern in the Western world<sup>1</sup>. Both the economic burden on society and the individual health problems related to sickness absence make this topic a frequent issue in politics and research.

In most countries, the general practitioners (GPs) are responsible for issuing most of the sick certifications, as in Norway where about 80% of the sick certifications are issued by a GP<sup>2</sup>. The process of sickness absence is a complex structure determined by several stakeholders, such as the patient in question, the physician, the workplace and the cultural and economic conditions of the society<sup>3</sup>. Each of these stakeholders plays a significant role in every sick note. Most research on sickness absence seems to have focused on characteristics related to the individual or the workplace. The role of the physician, the culture of the country, and legislation seem to have been less studied.

We have previously reported from a study in which Scandinavian GPs assessed diagnoses and work capacity of patients with severe subjective health complaints (SHC)<sup>4,5</sup>. In that study 126 GPs from Norway, Sweden and Denmark watched authentic video recordings from a Norwegian general practice where nine different patients discussed their health issues and their difficulties with staying at work with their GP. While the GPs proposed a great variety of diagnoses, for each of the patients they assessed, mostly symptom-based, they agreed to a large extent in their assessments of work capacity<sup>4,5</sup>.

Although there are differences in the legislation on benefits between the Scandinavian countries, one could assume that cultural similarities could account for the agreement among the GPs in Norway, Sweden and Denmark. It would therefore be of interest to investigate if GPs in another European country assessed these patients on the video vignettes differently.

Furthermore, it has been questioned whether GPs should continue to have the dual role as the patient's health care provider and also be the gate keeper for the compensation following sickness absence<sup>3,6</sup>. In some countries, like the Netherlands these two tasks are separated so that a worker with reduced work capacity will have to be assessed by an Occupational Physician (OP) or an Insurance Physician (IP) in order to get compensation during sick leave<sup>7</sup>. While GPs may be accused of being too close to their patients to be objective in their assessment of work capacity, the opposite may be the case for the OPs and IPs as they are engaged by the employer or social security agency respectively. Given these differences between the European countries it should be interesting to add assessments made by Dutch OPs and IPs to this study.

The aims of this study were therefore to investigate if GPs in another European country and OPs and IPs in The Netherlands assess the work capacity of patients with severe SHC differently, compared to the existing data from the previous study on Scandinavian GPs.

METHODS AND MATERIAL

Study design

This cross sectional study comparing physicians’ assessments of work capacity was based on a study of GPs in Norway, Sweden and Denmark<sup>4</sup>. The video vignettes and the questionnaire used in the previous study formed the material also for this study.

Patient group

In the previous study, all the patients were reported to have *severe Subjective Health Complaints* (SHC)<sup>4,8</sup>. This term is largely identical to the more common term *Medically Unexplained Physical Symptoms* (MUPS) or *Medically Unexplained Symptoms* (MUS). Also the term *Bodily Distress Syndrome* (BDS) has been suggested<sup>9</sup>. All terms refer to patients with health complaints that are “defying the clinical picture of known, verifiable, conventionally defined diseases and unbacked by clinical or paraclinical findings”<sup>10</sup>. Although all these terms are controversial they refer to conditions well known to clinicians, like unspecific pain from the musculoskeletal system, fatigue, feelings of mood disturbances etc.<sup>11</sup>. The prevalence of patients with MUPS has been reported from 3% to 33% in general practice<sup>12</sup>. In this paper we use the terms MUPS and SHC synonymously.

We have chosen this patient group for this study because patients with MUPS have a higher risk for sickness absence<sup>13</sup> and physicians find it more difficult to assess their work capacity than on patients with specific and well defined conditions<sup>14,15</sup>. We assumed that assessment of work capacity in patients with SHC reflected personal attitudes, relations to the patients and individual judgments to a larger extent than assessments of pneumonia, heart attacks and fractures, which more often follow a predictable course.

Participant recruitment

France was chosen as “another European country” due to similarities in the working conditions for GPs in France and Scandinavia (self-employed, per capita payment, mostly small family medicine centers) and yet culturally different in historic, language and religious origin. All GPs in the departments of Loire Atlantique and Vendée were invited to participate in the study by letter of invitation. In order to reach a sufficient number of participants at the two sites, GPs were also contacted by telephone or e-mails and asked individually for participation. The French GPs were reimbursed €350 each for their participation.

In the Netherlands, invitations were sent by e-mail to all OPs from the country’s largest occupational health services and all IPs working with sickness certification at six offices of the Institute for Employee Benefit Schemes. The Dutch’ OPs and IPs attended the seminar as a Continued Medical Education activity.



## Data collection

A sample of GPs in France, and OPs and IPs in the Netherlands were gathered on a one-day seminar in order to collect the data. In both countries, the first part of the seminar was dedicated to data collection and the second part was dedicated to courses and group discussions on the theme.

In a similar manner as was done in the Scandinavian countries in the previous study, the participants were presented nine case stories on video vignettes. The videos were authentic consultations from a Norwegian general practice showing patients with severe SHC claiming too ill for work. The original films were transcribed and the films were re-recorded with professional actors in the patients' role. The films were provided with French and Dutch subtitles respectively, translated by a professional translation bureau. Each vignette had a short introduction by the GP with some background information and results of medical investigations. Following each case story the participants were asked to answer a questionnaire to provide up to three diagnoses and to give their assessment of sick leave or not. (For details, see Mæland et al, 2013<sup>4</sup>.) Sick leave decisions were dichotomized according 'no sick leave granted' and 'partial or 100% sick leave granted'.

The questionnaire also assessed background information regarding age, gender and work experience of the physician. Additionally, participating physicians were asked to respond to statements related to cause for complaints and sick leave, and to the patients' ability to work. These statements were: "The work situation is the main reason for the patient's complaints", "His/her private life is the main reason for the patient's complaints", "Medical and health related factors are the main reasons for granting sick leave", "The patient is not motivated to work", "If the patient is not sick listed, the complaints will worsen or the healing process will be slower", and "How would you judge the patient's ability to work?" Answers were given on a five-point Likert scale from strongly agree to strongly disagree for all questions, except for that relating to workability which had answers ranging from negligibly reduced to very much reduced. The answers on the Likert scale were dichotomised for the analyses.

## STATISTICS

Statistical analyses were performed in IBM SPSS Statistics 22.0. Statistical significance was set at  $p < 0.05$ . Between-countries differences for background variables were tested with Chi-square tests for gender and Kruskal-Wallis for age and work experience.

Sick leave decisions (no/yes) were the main outcome of the study. Differences between countries regarding the physicians' sick leave decisions were tested with generalized linear mixed models (GLLM) analyses with country and patient as factor, and a random slope for doctor. Norway was used as reference country. GLLM analyses were also used to test differences between doctor specialization (GP or OP/IP) regarding sick leave decisions; the model included specialization and patient as factors, and a random slope for doctor.

Assessment of confounding was done for the background variables of the physicians, as well as for diagnosis, reported cause for health complaints, reasons for sick leave, and work

capacity. Assessment of confounding was done separately for between-country differences and for differences between GPs and OPs/IPs. Confounders were identified by, firstly, determining whether an association existed between the outcome and the potential confounder. Secondly, when an association was significant, it was added to the model and confounding was assessed by a 10% change in the main effect estimates for country (1<sup>st</sup> analysis) or physician specialty (2<sup>nd</sup> analysis). Lastly, all identified confounders were simultaneously added to the crude model. The crude and adjusted model results are presented as odds ratios (OR).

RESULTS

A total of 46 GPs in France and 93 OPs/IPs in The Netherlands participated in the study and gave their assessments of the nine video vignettes (Table 1). In this study we compared these data with the results previously reported from 56 GPs in Norway, 29 GPs in Sweden and 41 GPs in Denmark.

*Please insert Table 1 about here*

For gender a statistically significant difference was found between the countries ( $p=0.018$ ). There were more male than female physicians in the samples from Norway and the Netherlands (Table 1).

Statistically significant differences were found between the countries for age ( $p=0.001$ ) and for work experience ( $p=0.002$ ). The physicians in Norway and Denmark seemed to be somewhat younger than in the other countries. The Dutch OPs and IPs tended to have more work experience compared to the other countries.

Sick leave decisions

For each country, the percentage of physicians granting sick leave is given in Figure 1. The figure shows that for each patient small differences exist between the countries, and that for all countries patients 2, 6 and 9 are granted sick leave to a much lesser extent than the other patients. Compared to Norway, differences between the countries for each of the patients varied from 0% and up to 26%. Overall, statistical significant differences were found between the countries (Table 2). Compared to Norwegian GPs, sick leave was less likely to be granted by Swedish GPs (OR 0.51, (95% CI 0.30-0.86) and by Dutch OPs/IPs (OR 0.53, 95% CI 0.37-0.78). The analyses were adjusted for work capacity, medical cause as main reason for sick leave, and work situation as main reason for health complaints. In the adjusted analyses, the differences between Swedish and Norwegian GPs maintained (OR 0.43, 95% CI 0.23-0.79). This was also valid for the differences between Dutch and Norwegian physicians (OR 0.55, 95% CI 0.36-0.86).

*Please insert Table 2 about here*

*Please insert Figure 1 about here*



In table 3 and figure 2 we have compared the Dutch OPs and IPs to all GPs in our material. Differences between the GPs and Dutch OPs/IPs were between 1-13% (Figure 2). Overall, compared to the GPs, the Dutch OPs/IPs were less likely to grant sick leave (OR 0.60, 95% CI 0.45-0.87). In adjusted analyses, with diagnosis chapter (ICPC-2) as the only confounder, the difference between GPs and Dutch OPs/IPs remained (OR 0.67, 95% CI 0.49-0.93). The interactions between doctors and diagnosis showed that Dutch OPs/IPs were less likely to grant sick leave compared to the GPs when a diagnosis under chapter A (General and unspecific' in the ICPC-2 system) was given than another diagnosis.

*Please insert Table 3 about here*

*Please insert Figure 2 about here*

## DISCUSSION

In this study, Swedish GPs and Dutch OPs/IPs were less likely to grant sick leave to patients with severe SHC compared to GPs from Norway, while GPs from Denmark and France were equally likely to grant sick leave as the Norwegian GPs. However, the pattern of deciding which patient should be sick-listed or not, was quite similar between all countries. The comparison based on physician specialization showed that OPs and IPs were, overall, less likely to grant sick leave than GPs.

As previously stated, this study was based on the same material as a previous study on GPs from Norway, Sweden and Denmark<sup>4,5</sup>. In the previous study the GPs' assessments were tested one by one for each of the nine vignettes and no significant differences were reported between the GPs from the three countries with one exception<sup>4</sup>. A significant difference was found between Norwegian and Swedish GPs in their assessments on patients given a P diagnosis (psychiatric diagnoses in the ICPC-2 coding system). This may to some extent explain the differences in assessments observed between Norwegian and Swedish GPs also in this study. Furthermore, in the present study we have combined all assessments for all nine vignettes which may also produce a different result than when testing for each vignette separately. Also, when considering the relatively large difference between the countries for some patients, i.e. 21-26% for patients 3, 5 and 6, the small sample size may have limited the power of the analyses in the previous study.

Although none of the participants in this study had any relationship to the patients one may assume that the differences in assessments observed between Swedish GPs and Dutch OPs/IPs on the one side, and the GPs from Norway, Denmark and France on the other side reflect real differences in attitudes, knowledge and practices in their sick-listing pattern in the real life. In order to interpret the findings it is of importance to look at differences in training,

social security legislation, cultural differences and organizational settings between these physicians.

Both Sweden and the Netherlands have launched guidelines which may provide specific knowledge of value in the assessments of patients with SHC<sup>16</sup>. In Sweden all medical conditions were given a specific length of a sick leave deemed appropriate in 2007 in a national guideline<sup>17</sup>, and in the Netherlands national guidelines on the management of MUS have been available since 2013<sup>18</sup>. This may have improved the general knowledge on the management of the demanding task of assessing work capacity in patients with SHC. The French' guidelines on recommended duration of sick leave does not apply to SHC as all conditions listed in the guidelines are specific and well defined medical diagnoses<sup>19</sup>. Also the training of specialists in occupational medicine, as OPs and IPs, provide differences between the physicians in this study.

In terms of organizational differences, Norwegian GPs are self-employed and paid on a per-capita fee, like GPs in Denmark and France, while Swedish GPs work in multidisciplinary community health centers and have a fixed salary. Also the OPs/IPs in the Netherlands have a fixed salary, and they work in large settings of multidisciplinary occupational health services or within social security agencies. A qualitative study from Norway suggests that GPs feel somewhat economically depended by their patients which may impact on their gatekeeper role<sup>20</sup>.

In a previous systematic review on physicians' determinants for sick listing low back pain patients, the question was raised whether "the otherwise beneficial patient-physician relationship and physicians' care for their patients may be an obstacle to following guidelines on LBP management in the sick-listing process"<sup>21</sup>. The present study may be interpreted as a support for this statement if we assume that Swedish GPs and Dutch OPs/IPs are less closely related to their patients than the GPs from the other countries, due to the differences in the encounter settings.

It is of importance to highlight that there are also similarities in the assessments among the participating physicians. The tendency of which patients should be recommended sick listed or not, followed the same pattern in all the countries and between GPs and OPs/IPs in the study. In all countries, patients number 2, 6 and 9 were deemed less likely to be sick listed, while for the patients number 1, 4, 7 and 8 more than 80% of the physicians in each country recommended a sick leave.

The concept of tacit knowledge has gained increasingly interest in research<sup>22</sup> and may be applicable for the understanding of this similar pattern of the assessments provided by all the participants in this study. Listening to the case stories of vignettes number 2, 6 and 9, it is not obvious why these are assessed differently than the other stories of severe SHC. Nevertheless, there is something in these stories, or in the patients, that produces a different assessment by the physicians than in the other vignettes. We believe this call for further research on medical judgment and tacit knowledge as important factors in physicians' decision making on sick leave.

### Strength and limitations

This study had some strengths and weaknesses. Firstly, to our knowledge this is the first study that compared physicians' sick leave appraisals from several countries. It is also the first study to compare sick leave appraisals between physicians with different roles, i.e. the dual role of GP as primary care giver and gatekeeper compared to the role of OP/IP as gatekeeper only. Any comparison to previous research is therefore difficult to provide.

Secondly, the study design used video vignettes that reflect 'real-life' better than written vignettes often used in training<sup>23</sup>, because the nonverbal information derived from videos play an important role in a physician's assessment<sup>24</sup>. It may be argued that a weakness of the study is the fact that the video vignettes did not allow for interaction between the participating physicians and the patients, which may have influenced the appraisals.

For the comparison with physicians in other countries, the videos were translated into their native language by a professional translation bureau. However, there is a small chance that due to the translation some small nuances in the discussions between the patient and the physician have gone lost. There could be also less attention for non-verbal communication by physicians from other countries than Norway because their attention may have been distracted to read the subtitles.

### CONCLUSION

Dutch OPs/IPs and Swedish GPs were less likely in this study to grant sick leave to patients with severe SHC compared to GPs from Norway. Danish and French GPs were equally likely to grant sick leave as Norwegian GPs. We suggest from this study that these differences may reflect differences in attitudes, competencies and practices due to guidelines in both Sweden and the Netherlands which do not exist in the other countries. We also suggest these differences to be related to differences in settings of the physicians' practices. Differences between the OPs/IPs compared to the GPs may reflect their specialty training. However, similarities in the pattern of sick listing decisions between the countries call for a broader interpretation of this study. Further research is needed to clarify the findings in this study.

### ETHICS, FUNDING, DATA SHARING

All patients have given consent to the use of their original consultation for the purpose of education and research, although anonymity is granted by the use of professional actors in the vignettes.

The Dutch part of the study was funded by The Norwegian Labour and Welfare Administration through The FARVE program, and the French part by the L'Agence Régionale de Santé and La Caisse d'Assurance Maladie de Nantes, France.

No additional data are available.

STATEMENT OF CONTRIBUTION

ELW was responsible and involved in all parts of the study. SLM organized the Dutch part of data collection and was responsible for the analysis. SM was responsible for the Scandinavian part of the study. MJ, JPC and CR were responsible for the French part of the study. KW, FS and JRA were responsible for the Dutch part of the study. All authors were gathered to a two days seminar on the findings, and participated in the production of the paper.

COMPETING INTERESTS

None declared

REFERENCES

1. European Commission. Europe 2020 targets 2010. [http://ec.europa.eu/europe2020/reaching-the-goals/targets/index\\_en.htm](http://ec.europa.eu/europe2020/reaching-the-goals/targets/index_en.htm)
2. Brage S, Kann IC. Fastlegers sykmeldingspraksis. 1: Variasjoner (Variations in how GPs grant sick leave) Oslo: Rikstrygdeverket; 2006
3. Werner EL, Côté P. Low back pain and determinants of sickness absence. *Eur J Gen Pract* 2009; 15: 74-79
4. Mæland S, Werner EL, Rosendal M *et al.* Sick-leave decisions for patients with severe subjective health complaints presenting in primary care: A cross-sectional study in Norway, Sweden and Denmark. *Scand J Prim Health Care* 2013; 31(4):227-34
5. Mæland S, Werner EL, Rosendal M *et al.* Diagnoses of Patients with Severe Subjective Health Complaints in Scandinavia: A cross Sectional Study. ISRN Public Health Vol 2012; Article ID 851097. <http://dx.doi.org/10.5402/2012/851097>
6. Gerner U, Alexanderson K. Issuing sickness certificates: a difficult task for physicians: a qualitative analysis of written statements in a Swedish survey. *Scand J Public Health* 2009; 37(1): 57-63
7. Sickness, Disability and Work: Breaking the Barriers. Vol 3: Denmark, Finland, Ireland and the Netherlands. OECD Publishing 2008; ISBN 978-92-64-04968-0
8. Eriksen HR, Ursin H. Subjective health complaints, sensitization, and sustained cognitive activation (stress). *J of Psychosomatic Research* 2004; 56(4): 445-48
9. Creed F, Guthrie E, Fink P *et al.* Is there a better term than “Medically unexplained symptoms”? *J of Psychosomatic Research* 2010; 68(1): 5-8
10. Fink P, Toft T, Hansen MS *et al.* Symptoms and Syndromes of Bodily Distress: An Exploratory Study of 978 Internal Medical, Neurological, and Primary Care Patients. *Psychosomatic Medicine* 2007; 69: 30-39
11. Mayou R. Medically unexplained physical symptoms. *BMJ* 1991; 303: 534-5

12. Aamland A, Malterud K, Werner EL. Patients with persistent medically unexplained physical symptoms: a descriptive study from Norwegian general practice. *BMC Family Practice* 2014; 15:107 <http://www.biomedcentral.com/1471-2296/15/107>
13. Loengaard K, Bjorner JB, Fink P *et al.* Medically unexplained symptoms and the risk of loss of labor market participation – a prospective study in the Danish population. *BMC Public Health* 2015; 15:844. DOI 10.1186/s12889-015-2177-4
14. Von Knorring M, Sundberg L, Lofgren A, Alexanderson K. 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
15. Nilsen S, Werner EL, Mæland S *et al.* Considerations made by the general practitioner when dealing with sick-listing of patients suffering from subjective and composite health complaints. *Scand J Primary health care* 2011; 29(1):7-12
16. de Boer WEL, Mousavi SM, Delclos GL, Benavides FG, Lorente M, Kunz R. Expectations of sickness absence duration: A review on statements and methods used in guidelines in Europe and North America. *Eur J Pub Health* 2015; 1-6 doi:10.1093/eurpub/ckv222
17. Försäkringsmedicinskt beslutstöd (Decision support for insurance medicine) <http://www.socialstyrelsen.se/riktlinjer/forsakringsmedicinsktbeslutsstod>
18. Hartman O, Blankenstein AH, Molenaar AO *et al.* NHG Guideline on Medically Unexplained Symptoms (MUS). *Huisarts Wet* 2013;56(5):222-30
19. Caisse nationale de l'assurance maladie des travailleurs salariés. Fiches repères pour arrêt de travail (Reference documents for sick leave). Paris 2013; <http://www.ameli.fr/professionnels-de-sante/medecins/exercer-au-quotidien/aide-a-la-pratiquememos/les-memos-de-bonne-pratique/arrets-de-travail-des-referentiels-de-duree>
20. Carlsen B, Norheim OF. "Saying no is no easy matter" A qualitative study of competing concerns in rationing decisions in general practice. *BMC Health Services Research* 2005; 5:70 DOI: 10.1186/1472-6963-5-70
21. Werner EL, Côté P, Fullen B, Hayden J. Physicians' Determinants for Sick-listing LBP Patients: A Systematic Review. *Clin J Pain* 2012;28(4):364-71
22. Wainwright E, Wainwright D, Keogh E, Eccleston C. The social negotiation of fitness for work: tensions in doctor-patient relationship over medical certification of chronic pain. *Health* 2015;19(1):17-33
23. Englund L, Tibblin G, Svardsudd K. Variations in sick-listing practice among male and female physicians of different specialties based on case vignettes. *Scand J Prim Health Care* 2000; 18:48–52.
24. Peterson MC, Holbrook JH, Von Hales D, Smith NL, Staker LV. Contributions of the history, physical examination, and laboratory investigation in making medical diagnoses. *West J Med* 1992; 156:163–5.

**Table 1:** Demographic information of participating GPs from Norway, Sweden, Denmark, and France, and OPs/IPs from the Netherlands.

	Norway (n=56)	Sweden (n=29)	Denmark (n=41)	France (n=46)	Netherlands (n=93)	p-value
	n (%)	n (%)	n (%)	n (%)	n (%)	
Gender						
Male	36 (64)	12 (43)	14 (34)	19 (41)	52 (56)	0.018
Female	20 (36)	16 (57)	27 (66)	27 (59)	41 (44)	
Age						
<40 yr	15 (27)	5 (18)	5 (12)	15 (33)	12 (13)	0.001
41-50 yr	21 (38)	6 (21)	19 (46)	12 (26)	21 (23)	
51-60 yr	17 (30)	13 (47)	16 (39)	14 (30)	39 (42)	
>61 yr	3 (5)	4 (14)	1 (3)	5 (11)	21 (23)	
Work experience						
>10 yr	21 (38)	10 (36)	22 (54)	16 (35)	18 (19)	0.002
11-15 yr	12 (21)	4 (14)	9 (22)	6 (13)	23 (25)	
<16 yr	23 (41)	14 (50)	10 (24)	24 (52)	52 (56)	

**Table 2:** Crude and adjusted OR for the probability that GPs from Sweden (n=29), Denmark (n=41), France (n=46), and OPs/IPs from the Netherlands would grant sick leave, compared to Norwegian GPs.

	Crude model			Adjusted model		
	OR	95% CI	p	OR	95% CI	p
Norway	1			1		
Sweden	<b>0.51</b>	<b>0.30–0.86</b>	<b>0.012</b>	<b>0.43</b>	<b>0.23–0.79</b>	<b>0.006</b>
Denmark	0.89	0.56–1.42	0.619	1.05	0.64–1.73	0.851
France	1.10	0.73–1.65	0.641	1.11	0.67–1.85	0.679
The Netherlands	<b>0.53</b>	<b>0.37–0.78</b>	<b>0.001</b>	<b>0.55</b>	<b>0.36–0.86</b>	<b>0.009</b>
Workability						
Normal				1		
Reduced				11.28	7.60–16.75	<0.001
Medical cause of sick leave						
Disagree				1		
Agree				6.28	4.43–8.92	<0.001
Work causes complaints						
Disagree				1		
Agree				2.24	1.60–3.13	<0.001



**Table 3:** Crude and adjusted OR for the probability that occupational and insurance physicians from the Netherlands would grant sick leave, compared to GPs from the other countries.

	Crude model			Adjusted model			Adjusted model w/interactions		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
General Practitioner	1			1			1		
OP or IP	<b>0.60</b>	<b>0.45–0.87</b>	<b>0.001</b>	<b>0.67</b>	<b>0.49–0.93</b>	<b>0.016</b>	0.94	0.35–2.51	0.896
ICPC-2 chapter									
Other organ chapters				1			1		
General and unspecified (A)				1.51	0.95–2.39	0.080	<b>1.87</b>	<b>1.15–3.05</b>	<b>0.012</b>
Musculoskeletal (L)				1.39	0.79–2.42	0.254	1.36	0.75–2.47	0.310
Psychological (P)				1.75	1.16–2.65	0.007	1.78	1.14–2.77	0.012
OP/IP* ICPC-2 chapter									
OP/IP*Other organ chapters							1		
OP/IP*General and unspec. (A)							<b>0.28</b>	<b>0.09–0.92</b>	<b>0.036</b>
OP/IP*Musculoskeletal (L)							0.91	0.29–2.85	0.873
OP/IP*Psychological (P)							0.77	0.28–2.10	0.613

**Figure 1:** Percentage of GPs from Norway, Sweden, Denmark, and France, and OPs/IPs from the Netherlands granting sick leave to patients 1-9.

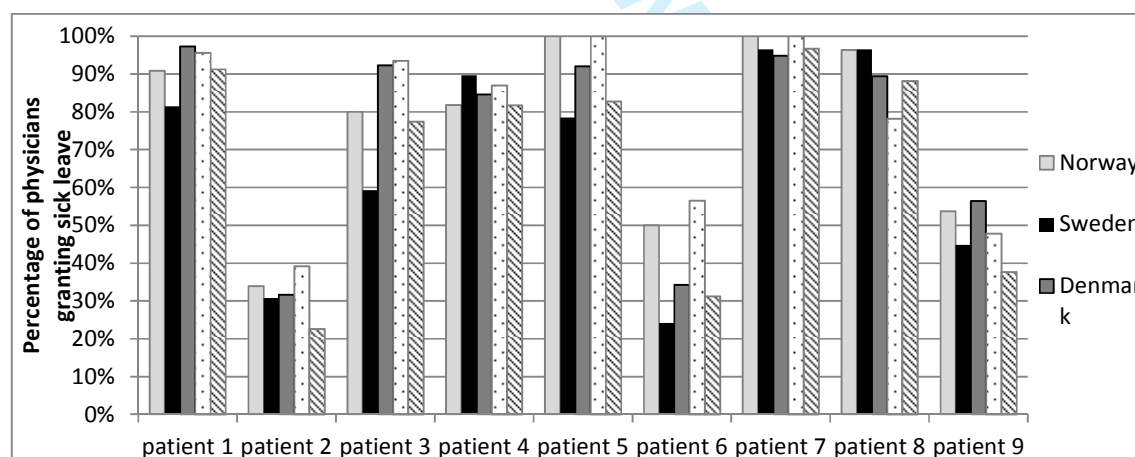
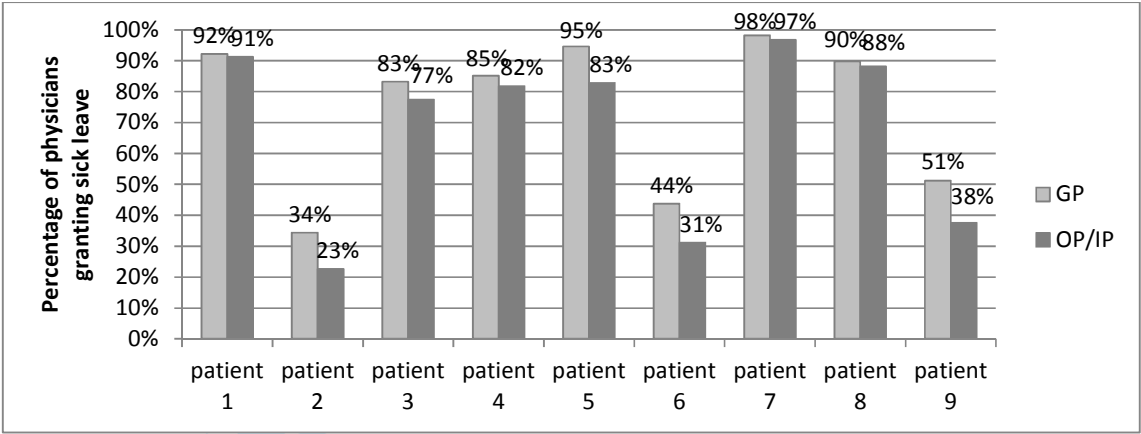


Figure 2: Percentage of general practitioners and occupational/insurance physicians granting sick leave for patients 1-9.



# BMJ Open

## Physicians' assessments of work capacity in patients with severe subjective health complaints – a cross-sectional study on differences between five European countries

Journal:	BMJ Open
Manuscript ID	bmjopen-2016-011316.R1
Article Type:	Research
Date Submitted by the Author:	13-May-2016
Complete List of Authors:	Werner, Erik ; Institute of Health and Society , Department of General Practice; Uni Research Health, Research Unit for General Practice Markus, Suzanne; Uni Research Health Maeland, Silje; Uni Research AS; Hogskolen i Bergen, Department of Occupational Therapy, Physiotherapy and Radiography Jourdain, Maud; Universite de Nantes, Department of General Practice Schaafsma, F; VU medisch centrum School of Medical Sciences, Department of Public and Occupational Health; AMC-UMCG-UWV-VUmc, Research Center for Insurance Medicine CANEVET, Jean-Paul; Faculty of Medicine, General Practice Weerdesteijn, Kristel; VU medisch centrum School of Medical Sciences RAT, Cédric; Faculty of Medicine, Department of General Practice; French National Institute of Health and Medical Research (INSERM U892) / National Center for Scientific Research (CNRS U6299) - Team 2, Anema, Han; VU University Medical Center, Public and Occupational HealthEMGOInstitute
<b>Primary Subject Heading</b>:	Occupational and environmental medicine
Secondary Subject Heading:	General practice / Family practice
Keywords:	GENERAL MEDICINE (see Internal Medicine), HEALTH SERVICES ADMINISTRATION & MANAGEMENT, OCCUPATIONAL & INDUSTRIAL MEDICINE, PAIN MANAGEMENT, PRIMARY CARE, PUBLIC HEALTH

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**Physicians’ assessments of work capacity in patients with severe subjective health complaints – a cross-sectional study on differences between five European countries**

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## ABSTRACT

**Objectives:** A comparison of appraisals made by GPs in France and OPs and IPs in the Netherlands to Scandinavian GPs on work capacity in patients with severe subjective health complaints (SHC).

**Setting:** GPs in France and OPs/IPs in the Netherlands were gathered to watch nine authentic video recordings from a Norwegian general practice.

**Participants:** 46 GPs in France and 93 OPs/IPs in the Netherlands invited to a full day course on SHC.

**Outcomes:** Recommendation of sick leave (full or partial) or no sick leave for each of the patients.

**Results:** Compared to Norwegian GPs, sick leave was less likely to be granted by Swedish GPs (OR 0.51, (95% CI 0.30-0.86) and by Dutch OPs/IPs (OR 0.53, 95% CI 0.37-0.78). In the adjusted analyses, the differences between Swedish and Norwegian GPs maintained (OR 0.43, 95% CI 0.23-0.79). This was also valid for the differences between Dutch and Norwegian physicians (OR 0.55, 95% CI 0.36-0.86). Overall, compared to the GPs, the Dutch OPs/IPs were less likely to grant sick leave (OR 0.60, 95% CI 0.45-0.87).

**Conclusion:** Swedish GPs and Dutch OPs/IPs were less likely to grant sick leave to patients with severe SHC compared to GPs from Norway, while GPs from Denmark and France were equally likely to grant sick leave as the Norwegian GPs. We suggest these findings may be due to guidelines on sick listing and on patients with severe SHC which exist in Sweden and the Netherlands respectively. Also differences in working conditions, relationship to the patients, and training of specialists in occupational medicine may impact on the results. An observation is however a similar pattern of which patients should be sick-listed or not among the physicians in all countries, suggesting that the physicians share tacit knowledge regarding sick leave decision making in patients with severe SHC.

ARTICLE SUMMARY

Strengths and limitations of this study

- This is the first study where physicians from five countries assess work capacity of the same patients
- This is the first study to compare sick leave appraisals between physicians with different roles, i.e. the dual role of GP as care provider and gatekeeper compared to the role of OP/IP as gatekeeper only
- The study design used video vignettes that reflect ‘real-life’ better than written vignettes often used in training
- The vignettes were translated into different languages which may lose small nuances in the discussions between the patient and the physician
- Subtitles may draw the attention away from the non-verbal communication on the vignettes



## INTRODUCTION

The sickness absence rate is of great concern in the Western world<sup>1</sup>. Both the economic burden on society and the individual health problems related to sickness absence make this topic a frequent issue in politics and research.

In most countries, the general practitioners (GPs) are responsible for issuing most of the sick certifications, as in Norway where about 80% of the sick certifications are issued by a GP<sup>2</sup>. The process of sickness absence is a complex structure determined by several stakeholders, such as the patient in question, the physician, the workplace and the cultural and economic conditions of the society<sup>3</sup>. Controlling officials for sick leave certification, such as occupational and insurance physicians, are also stake holders who can influence sick leave duration<sup>4</sup>. Each of these stakeholders plays a significant role in every sick note. Most research on sickness absence seems to have focused on characteristics related to the individual or the workplace. The role of the physician, the culture of the country, and legislation seem to have been less studied.

We have previously reported on a study in which Scandinavian GPs assessed diagnoses and work capacity of patients with severe subjective health complaints (SHC)<sup>5,6</sup>. In that study 126 GPs from Norway, Sweden and Denmark watched authentic video recordings from a Norwegian general practice where nine different patients discussed their health issues and their difficulties with staying at work with their GP. While the GPs proposed a great variety of diagnoses, for each of the patients they assessed, mostly symptom-based, they agreed to a large extent in their assessments of work capacity<sup>5,6</sup>.

Although there are differences in the legislation on benefits between the Scandinavian countries, one could assume that cultural similarities (habits, traditions and moral standards<sup>4</sup>) could account for the agreement among the GPs in Norway, Sweden and Denmark. It would therefore be of interest to investigate if GPs in another European country assessed these patients on the video vignettes differently.

Furthermore, it has been questioned whether GPs should continue to have the dual role as the patient's health care provider and also be the gate keeper for the compensation following sickness absence<sup>3,7</sup>. In some countries, like the Netherlands these two tasks are separated so that a worker with reduced work capacity will have to be assessed by an Occupational Physician (OP) or an Insurance Physician (IP) in order to get compensation during sick leave<sup>8</sup>. While GPs may be accused of being too close to their patients to be objective in their assessment of work capacity, the opposite may be the case for the OPs and IPs as they are engaged by the employer or social security agency respectively. Given these differences between the European countries it should be interesting to add assessments made by Dutch OPs and IPs to this study.

The aims of this study were therefore to investigate if GPs in France and OPs and IPs in The Netherlands assess the work capacity of patients with severe SHC differently, compared to the existing data from the previous study on Scandinavian GPs.

METHODS AND MATERIAL

Study design

In this cross sectional study, we have compared physicians’ assessments of work capacity in patients with SHC. In order to do so, we asked physicians from France and The Netherlands to watch nine video vignettes and provide their assessments on a questionnaire for each vignette. The vignettes and questionnaire was previously used in a study of GPs in Norway, Sweden and Denmark<sup>5</sup>, which made a comparison of assessments possible.

Patient group

In the previous study, all the patients were reported to have *severe Subjective Health Complaints* (SHC)<sup>5,9</sup>. This term is largely identical to the more common term *Medically Unexplained Physical Symptoms* (MUPS) or *Medically Unexplained Symptoms* (MUS). Also the term *Bodily Distress Syndrome* (BDS) has been suggested<sup>10</sup>. All terms refer to patients with health complaints that are “defying the clinical picture of known, verifiable, conventionally defined diseases and unbacked by clinical or paraclinical findings”<sup>11</sup>. Although all these terms are controversial they refer to conditions well known to clinicians, like unspecific pain from the musculoskeletal system, fatigue, feelings of mood disturbances etc.<sup>12</sup>. The prevalence of patients with MUPS has been reported from 3% to 33% in general practice<sup>13</sup>. In this paper we use the terms MUPS and SHC synonymously.

We have chosen this patient group for this study because patients with MUPS have a higher risk for sickness absence<sup>14</sup> and physicians find it more difficult to assess their work capacity than on patients with specific and well defined conditions<sup>15,16</sup>. We assumed that assessment of work capacity in patients with SHC reflected personal attitudes, relations to the patients and individual judgments to a larger extent than assessments of pneumonia, heart attacks and fractures, which more often follow a predictable course.

The videos consisted of 9 authentic consultations from a Norwegian general practice showing patients with severe SHC claiming too ill for work (Table 1). The original films were transcribed and the films were re-recorded with professional actors in the patients’ role. The films were provided with French and Dutch subtitles respectively, translated by a professional translation bureau. Each vignette had a short introduction by the GP with some background information and results of medical investigations.

Table 1: Description of the patients presented in the video vignettes<sup>5</sup>

Vignette	Gender, age	Demography	Complaints
1	♀, 25	Single, no children Interrupted secondary education Currently in rehabilitation program Several short-term jobs and sick-leave spells	Generalized, wide spread pain Neck and back pain Anxiety and depression Respiratory complaints

2	♂, 40	Married, two children Working off shore on oil platform – two weeks on, four weeks off work Several shorter periods of sick-leave and two long spells	Neck and back pain Sleep disturbances due to pain Irritable bowel syndrome
3	♀, 53	Housewife for 20 years with five foster-care children in addition to two biological children The fostering care has ended, and consequently her income also No formal education or work experiences outside the home	Generalized, wide spread pain Anxiety Fatigue
4	♂, 37	Married, unknown number of children Previously working off shore but started as self-employed in construction	Severe fatigue Economic burden due to loss of work capacity
5	♂, 42	Married, three children Works as formwork carpenter No previous history of sick-leave	He feels physically and mentally exhausted A 12-year old daughter with serious behavioural problems; enrolled in a behavioural training program with great demands of parents' involvement Afraid that he might collapse No energy left to deal with his daughter after work
6	♀, 37	No information on marital status or children Working in a kindergarten Previous four-month sick-leave for same complaints was followed by no symptoms for one and a half year	Periodic numbness, starting like a toothache, followed by a headache and a sensation of anaesthesia on the right side of the body Extensive medical investigation has not proved any cause for the symptoms
7	♀, 35	No information on marital status or children Working as teacher in primary school No previous history on sick-leave or health complaints	Feeling tired, weak, doesn't get things done, powerless, sleep disturbances Relates the symptoms to work overload
8	♂, 36	Married, two small children Working as teacher in comprehensive level Active sports trainer, coaches a 1st division handball team No previous sick-leave history, no previous psychiatric or somatic disorder Worries about possible serious illness despite negative examinations	Unspecific pain in jaw muscle, then the neck, head, and the stomach

9	♂, 38	Married, no children Works as a technician in an event bureau, producing big shows, theatres, films Commutes weekly 270 km for work	General tiredness from work and commuting, low energy According to his wife, he is irritable and passive, even aggressive towards his wife
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Participant recruitment

France was chosen due to similarities in the working conditions for GPs in France and Scandinavia (self-employed, per capita payment, mostly small family medicine centers) and yet culturally different in historic, language and religious origin. Two hundred of the 2000 GPs in the departments of Loire Atlantique and Vendée were by a randomization procedure invited to participate in the study by letter of invitation. From this, 34 agreed to participate. In order to reach a sufficient number of participants at the two sites, GPs were also contacted by telephone or e-mails and asked individually for participation. The French GPs were reimbursed €350 each for their participation. The region was chosen due to previous collaboration between the researchers in this study. The French researchers used their local network to recruit the participants.

In the Netherlands, invitations were sent by e-mail to all OPs from the country’s largest occupational health services and all IPs working with sickness certification at six offices of the Institute for Employee Benefit Schemes. The Dutch’ OPs and IPs attended the seminar as a Continued Medical Education activity.

Data collection

A sample of GPs in France was gathered on a one-day seminar in order to collect the data. The same was done for a sample of OPs and IPs in the Netherlands. In both countries, the first part of the seminar was dedicated to data collection and the second part was dedicated to courses and group discussions on the theme.

In a similar manner as was done in the Scandinavian countries in the previous study, the participants were presented nine case stories on video vignettes. Following each case story the participants were asked to answer a questionnaire (Appendix 1) to give their assessment of sick leave or not. (For details, see Mæland et al, 2013<sup>5</sup>.) Sick leave decisions were dichotomized according ‘no sick leave granted’ and ‘partial or 100% sick leave granted’.

The questionnaire also assessed background information regarding age, gender and work experience of the physician. Further, the physicians were asked to provide up to three diagnoses for each patient; these were categorised according to chapters of the ICPC-2: Generalised and unspecific (A); Musculoskeletal (L); Psychological (P); and other organ chapters. Additionally, participating physicians were asked to respond to statements related to cause for complaints and sick leave, and to the patients’ ability to work. These statements were: “The work situation is the main reason for the patient’s complaints”, “His/her private

life is the main reason for the patient's complaints", "Medical and health related factors are the main reasons for granting sick leave", "The patient is not motivated to work", "If the patient is not sick listed, the complaints will worsen or the healing process will be slower ", and "How would you judge the patient's ability to work?" Answers were given on a five-point Likert scale from strongly agree to strongly disagree for all questions, except for that relating to workability which had answers ranging from negligibly reduced to very much reduced. The answers on the Likert scale were dichotomised for the analyses.

## STATISTICS

The nine questionnaires from all participating physicians were transferred into a statistics program. Statistical analyses were performed in IBM SPSS Statistics 22.0. Statistical significance was set at  $p < 0.05$ . Between-countries differences for background variables were tested with Chi-square tests for gender and Kruskal-Wallis for age and work experience.

Sick leave decisions (no/yes) were the main outcome of the study. Differences between countries regarding the physicians' sick leave decisions were tested with generalized linear mixed models (GLLM) analyses with country and patient as factor, and a random slope for doctor. Norway was used as reference country. GLLM analyses were also used to test differences between doctor specialization (GP or OP/IP) regarding sick leave decisions; the model included specialization and patient as factors, and a random slope for doctor.

Assessment of confounding was done for the background variables of the physicians, as well as for diagnosis, reported cause for health complaints, reasons for sick leave, and work capacity. Assessment of confounding was done separately for between-country differences and for differences between GPs and OPs/IPs. Confounders were identified by, firstly, determining whether an association existed between the outcome and the potential confounder. Secondly, when an association was significant, it was added to the model and confounding was assessed by a 10% change in the main effect estimates for country (1<sup>st</sup> analysis) or physician specialty (2<sup>nd</sup> analysis). Lastly, all identified confounders were simultaneously added to the crude model. The crude and adjusted model results are presented as odds ratios (OR).

## RESULTS

A total of 46 GPs in France and 93 OPs/IPs in The Netherlands participated in the study and gave their assessments of the nine video vignettes (Table 1). In this study we compared these data with the results previously reported from 56 GPs in Norway, 29 GPs in Sweden and 41 GPs in Denmark.

**Table 2:** Demographic information of participating GPs from Norway, Sweden, Denmark, and France, and OPs/IPs from the Netherlands.

	Norway (n=56)	Sweden (n=29)	Denmark (n=41)	France (n=46)	Netherlands (n=93)	p-value
	n (%)	n (%)	n (%)	n (%)	n (%)	
Gender						
Male	36 (64)	12 (43)	14 (34)	19 (41)	52 (56)	0.018
Female	20 (36)	16 (57)	27 (66)	27 (59)	41 (44)	
Age						
<40 yr	15 (27)	5 (18)	5 (12)	15 (33)	12 (13)	0.001
41-50 yr	21 (38)	6 (21)	19 (46)	12 (26)	21 (23)	
51-60 yr	17 (30)	13 (47)	16 (39)	14 (30)	39 (42)	
>61 yr	3 (5)	4 (14)	1 (3)	5 (11)	21 (23)	
Work experience						
<10 yr	21 (38)	10 (36)	22 (54)	16 (35)	18 (19)	0.002
11-15 yr	12 (21)	4 (14)	9 (22)	6 (13)	23 (25)	
>16 yr	23 (41)	14 (50)	10 (24)	24 (52)	52 (56)	

For gender a statistically significant difference was found between the countries ( $p=0.018$ ). There were more male than female physicians in the samples from Norway and the Netherlands (Table 2).

Statistically significant differences were found between the countries for age ( $p=0.001$ ) and for work experience ( $p=0.002$ ). The physicians in Norway and Denmark seemed to be somewhat younger than in the other countries. The Dutch OPs and IPs tended to have more work experience compared to the other countries.

Sick leave decisions

For each country, the percentage of physicians granting sick leave is given in Figure 1. The figure shows that for each patient small differences exist between the countries, and that for all countries patients 2, 6 and 9 are granted sick leave to a much lesser extent than the other patients. Compared to Norway, differences between the countries for each of the patients varied from 0% and up to 26%. Overall, statistical significant differences were found between the countries (Table 3). Compared to Norwegian GPs, sick leave was less likely to be granted by Swedish GPs (OR 0.51, (95% CI 0.30-0.86) and by Dutch OPs/IPs (OR 0.53, 95% CI 0.37-0.78). The analyses were adjusted for work capacity, medical cause as main reason for sick leave, and work situation as main reason for health complaints. In the adjusted analyses, the differences between Swedish and Norwegian GPs maintained (OR 0.43, 95% CI 0.23-0.79). This was also valid for the differences between Dutch and Norwegian physicians (OR 0.55, 95% CI 0.36-0.86).



**Table 3:** Crude and adjusted OR for the probability that GPs from Sweden (n=29), Denmark (n=41), France (n=46), and OPs/IPs from the Netherlands would grant sick leave, compared to Norwegian GPs.

	Crude model			Adjusted model		
	OR	95% CI	p	OR	95% CI	p
Norway	1			1		
Sweden	<b>0.51</b>	<b>0.30–0.86</b>	<b>0.012</b>	<b>0.43</b>	<b>0.23–0.79</b>	<b>0.006</b>
Denmark	0.89	0.56–1.42	0.619	1.05	0.64–1.73	0.851
France	1.10	0.73–1.65	0.641	1.11	0.67–1.85	0.679
The Netherlands	<b>0.53</b>	<b>0.37–0.78</b>	<b>0.001</b>	<b>0.55</b>	<b>0.36–0.86</b>	<b>0.009</b>
Workability						
Normal				1		
Reduced				11.28	7.60–16.75	<0.001
Medical cause of sick leave						
Disagree				1		
Agree				6.28	4.43–8.92	<0.001
Work causes complaints						
Disagree				1		
Agree				2.24	1.60–3.13	<0.001

*Please insert Figure 1 about here*

In table 4 and figure 2 we have compared the Dutch OPs and IPs to all GPs in our material. Differences between the GPs and Dutch OPs/IPs were between 1-13% (Figure 2). Overall, compared to the GPs, the Dutch OPs/IPs were less likely to grant sick leave (OR 0.60, 95% CI 0.45-0.87). In adjusted analyses, with diagnosis chapter (ICPC-2) as the only confounder, the difference between GPs and Dutch OPs/IPs remained (OR 0.67, 95% CI 0.49-0.93). The interactions between doctors and diagnosis showed that Dutch OPs/IPs were less likely to grant sick leave compared to the GPs when a diagnosis under chapter A ('General and unspecific' in the ICPC-2 system) was given than another diagnosis.

**Table 4:** Crude and adjusted OR for the probability that occupational and insurance physicians from the Netherlands would grant sick leave, compared to GPs from the other countries.

	Crude model			Adjusted model			Adjusted model w/interactions		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
General Practitioner	1			1			1		
OP or IP	<b>0.60</b>	<b>0.45–0.87</b>	<b>0.001</b>	<b>0.67</b>	<b>0.49–0.93</b>	<b>0.016</b>	0.94	0.35–2.51	0.896
GP ICPC-2 chapter									
Other organ chapters				1			1		
General and unspecified (A)				1.51	0.95–2.39	0.080	<b>1.87</b>	<b>1.15–3.05</b>	<b>0.012</b>
Musculoskeletal (L)				1.39	0.79–2.42	0.254	1.36	0.75–2.47	0.310
Psychological (P)				1.75	1.16–2.65	0.007	1.78	1.14–2.77	0.012
OP/IP* ICPC-2 chapter									
OP/IP*Other organ chapters							1		
OP/IP*General and unspec. (A)							<b>0.28</b>	<b>0.09–0.92</b>	<b>0.036</b>
OP/IP*Musculoskeletal (L)							0.91	0.29–2.85	0.873
OP/IP*Psychological (P)							0.77	0.28–2.10	0.613

*Please insert Figure 2 about here*

DISCUSSION

In this study, Swedish GPs and Dutch OPs/IPs were less likely to grant sick leave to patients with severe SHC compared to GPs from Norway, while GPs from Denmark and France were equally likely to grant sick leave as the Norwegian GPs. However, the pattern of deciding which patient should be sick-listed or not, was quite similar between all countries. The comparison based on physician specialization showed that OPs and IPs were, overall, less likely to grant sick leave than GPs.

As previously stated, this study was based on the same material as a previous study on GPs from Norway, Sweden and Denmark<sup>5,6</sup>. In the previous study the GPs’ assessments were tested one by one for each of the nine vignettes and no significant differences were reported between the GPs from the three countries with one exception<sup>5</sup>. A significant difference was found between Norwegian and Swedish GPs in their assessments on patients given a P diagnosis (psychiatric diagnoses in the ICPC-2 coding system). This may to some extent explain the differences in assessments observed between Norwegian and Swedish GPs also in this study. Furthermore, in the present study we have combined the assessments for all nine vignettes to study main effects for country which may produce a different result than when testing for each vignette separately, i.e. with an interaction between country and patients.

Also, when considering the relatively large difference between the countries for some patients, i.e. 21-26% for patients 3, 5 and 6, the small sample size may have limited the power of the analyses in the previous study.

Although none of the participants in this study had any relationship to the patients one may assume that the differences in assessments observed between Swedish GPs and Dutch OPs/IPs on the one side, and the GPs from Norway, Denmark and France on the other side reflect real differences in attitudes, knowledge and practices in their sick-listing pattern in the real life. In order to interpret the findings it is of importance to look at differences in training, social security legislation, cultural differences and organizational settings between these physicians.

Regarding management of severe SHC and social security legislation, both Sweden and the Netherlands have launched guidelines which may provide specific knowledge of value in the assessments of patients with SHC<sup>17</sup>. In Sweden all medical conditions were given a specific length of a sick leave deemed appropriate in 2007 in a national guideline<sup>18</sup>, and in the Netherlands national guidelines on the management of MUS have been available since 2013<sup>19</sup>. This may have improved the general knowledge on the management of the demanding task of assessing work capacity in patients with SHC. The French guidelines on recommended duration of sick leave does not apply to SHC as all conditions listed in the guidelines are specific and well defined medical diagnoses<sup>20</sup>.

Also the training of specialists in occupational medicine, as OPs and IPs, probably provide differences between the physicians in this study. Dutch IPs and OPs were less likely to grant sick leave compared to the Norwegian GPs as well as compared to the total sample of GPs from the four countries combined. However, Swedish GPs were even less likely to grant sick leave compared to the Norwegian GPs than the Dutch OPs and IPs. Therefore, this study may indicate that the specific training of OPs and IPs may have an impact on the decision making, but training alone does not explain the differences between OPs/IPs and GPs found in this study.

In terms of organizational differences, Norwegian GPs are self-employed and paid on a per-capita fee, like GPs in Denmark and France, while Swedish GPs work in multidisciplinary community health centers and have a fixed salary. Also the OPs/IPs in the Netherlands have a fixed salary, and they work in large settings of multidisciplinary occupational health services or within social security agencies. A qualitative study from Norway suggests that GPs feel somewhat economically depended by their patients which may impact on their gatekeeper role<sup>21</sup>.

In a previous systematic review on physicians' determinants for sick listing low back pain patients, the question was raised whether "the otherwise beneficial patient-physician relationship and physicians' care for their patients may be an obstacle to following guidelines on LBP management in the sick-listing process"<sup>22</sup>. The present study may be interpreted as a support for this statement if we assume that Swedish GPs and Dutch OPs/IPs are less closely related to their patients than the GPs from the other countries, due to the differences in the encounter settings.

It is of importance to highlight that there are also similarities in the assessments among the participating physicians. The tendency of which patients should be recommended sick listed or not, followed the same pattern in all the countries and between GPs and OPs/IPs in the study. In all countries, patients number 2, 6 and 9 were deemed less likely to be sick listed, while for the patients number 1, 4, 7 and 8 more than 80% of the physicians in each country recommended a sick leave.

The concept of tacit knowledge has gained increasingly interest in research<sup>23</sup> and may be applicable for the understanding of this similar pattern of the assessments provided by all the participants in this study. Listening to the case stories of vignettes number 2, 6 and 9, it is not obvious why these are assessed differently than the other stories of severe SHC. Nevertheless, there is something in these stories, or in the patients, that produces a different assessment by the physicians than in the other vignettes. We believe this calls for further research on medical judgment and tacit knowledge as important factors in physicians' decision making on sick leave.

**Strength and limitations**

To our knowledge this is the first study that compared physicians' sick leave appraisals using video vignettes. This design reflects "real life" better than written vignettes often used in training<sup>24</sup>, because the nonverbal information derived from videos play an important role in a physician's assessment<sup>25</sup>. It is also the first study to compare sick leave appraisals between physicians with different roles directly, i.e. the dual role of GP as primary care giver and gatekeeper compared to the role of OP/IP as gatekeeper only. Any comparison to previous research is therefore difficult to provide.

However, as this design not seems to have been performed previously, the generalizability of the results is unsure.

It may be argued that a weakness of the study is the fact that the video vignettes did not allow for interaction between the participating physicians and the patients, which may have influenced the appraisals. However, limited information is usually also the case at the encounter with limited time and thus the normal basis for the physician's decision making.

For the comparison with physicians in other countries, the videos were translated into their native language by a professional translation bureau. However, there is a small chance that due to the translation some small nuances in the discussions between the patient and the physician have gone lost. There could be also less attention for non-verbal communication by physicians from other countries than Norway because their attention may have been distracted to read the subtitles.

**CONCLUSION**

Dutch OPs/IPs and Swedish GPs were less likely in this study to grant sick leave to patients with severe SHC compared to GPs from Norway. Danish and French GPs were equally likely to grant sick leave as Norwegian GPs. We suggest from this study that these differences may

reflect differences in attitudes, competencies and practices due to guidelines in both Sweden and the Netherlands which do not exist in the other countries. We also suggest these differences to be related to differences in settings of the physicians' practices. Differences between the OPs/IPs compared to the GPs may reflect their specialty training. However, similarities in the pattern of sick listing decisions between the countries call for a broader interpretation of this study. Further research is needed to clarify whether the small but statistical differences observed in this study is clinically and economically significant. Further research should also explore characteristics of the patients number 2, 6 and 9 which are consequently assessed differently than the other the other patients by all physicians in this study, given that all nine patients were suffering from SHC.

#### ETHICS, FUNDING, DATA SHARING

All patients have given consent to the use of their original consultation for the purpose of education and research, although anonymity is granted by the use of professional actors in the vignettes.

The Dutch part of the study was funded by The Norwegian Labour and Welfare Administration through The FARVE program, and the French part by the L'Agence Régionale de Santé and La Caisse d'Assurance Maladie de Nantes, France.

No additional data are available.

#### STATEMENT OF CONTRIBUTION

ELW was responsible and involved in all parts of the study. SLM organized the Dutch part of data collection and was responsible for the analysis. SM was responsible for the Scandinavian part of the study. MJ, JPC and CR were responsible for the French part of the study. KW, FS and JRA were responsible for the Dutch part of the study. All authors were gathered to a two days seminar on the findings, and participated in the production of the paper.

#### COMPETING INTERESTS

None declared

REFERENCES

1. European Commission. Europe 2020 targets 2010. [http://ec.europa.eu/europe2020/reaching-the-goals/targets/index\\_en.htm](http://ec.europa.eu/europe2020/reaching-the-goals/targets/index_en.htm)

2. Brage S, Kann IC. Fastlegers sykmeldingspraksis. 1: Variasjoner (Variations in how GPs grant sick leave) Oslo: Rikstrykdeverket; 2006

3. Werner EL, Côté P. Low back pain and determinants of sickness absence. *Eur J Gen Pract* 2009; 15: 74-79

4. Beemsterboer WGM. On regional differences in sick leave. The role of work, individual and health characteristics and socio-cultural environment. Maastricht 2009; ISBN 978-90-5278-721-3

5. Mæland S, Werner EL, Rosendal M *et al.* Sick-leave decisions for patients with severe subjective health complaints presenting in primary care: A cross-sectional study in Norway, Sweden and Denmark. *Scand J Prim Health Care* 2013; 31(4);227-34

6. Mæland S, Werner EL, Rosendal M *et al.* Diagnoses of Patients with Severe Subjective Health Complaints in Scandinavia: A cross Sectional Study. ISRN Public Health Vol 2012; Article ID 851097. <http://dx.doi.org/10.5402/2012/851097>

7. Gerner U, Alexanderson K. Issuing sickness certificates: a difficult task for physicians: a qualitative analysis of written statements in a Swedish survey. *Scand J Public Health* 2009; 37(1): 57-63

8. Sickness, Disability and Work: Breaking the Barriers. Vol 3: Denmark, Finland, Ireland and the Netherlands. OECD Publishing 2008; ISBN 978-92-64-04968-0

9. Eriksen HR, Ursin H. Subjective health complaints, sensitization, and sustained cognitive activation (stress). *J of Psychosomatic Research* 2004; 56(4): 445-48

10. Creed F, Guthrie E, Fink P *et al.* Is there a better term than “Medically unexplained symptoms”? *J of Psychosomatic Research* 2010; 68(1): 5-8

11. Fink P, Toft T, Hansen MS *et al.* Symptoms and Syndromes of Bodily Distress: An Exploratory Study of 978 Internal Medical, Neurological, and Primary Care Patients. *Psychosomatic Medicine* 2007; 69: 30-39

12. Mayou R. Medically unexplained physical symptoms. *BMJ* 1991; 303: 534-5

13. Aamland A, Malterud K, Werner EL. Patients with persistent medically unexplained physical symptoms: a descriptive study from Norwegian general practice. *BMC Family Practice* 2014; 15:107 <http://www.biomedcentral.com/1471-2296/15/107>

14. Loenggaard K, Bjorner JB, Fink P *et al.* Medically unexplained symptoms and the risk of loss of labor market participation – a prospective study in the Danish population. *BMC Public Health* 2015; 15;844. DOI 10.1186/s12889-015-2177-4

15. Von Knorring M, Sundberg L, Lofgren A, Alexanderson K. 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

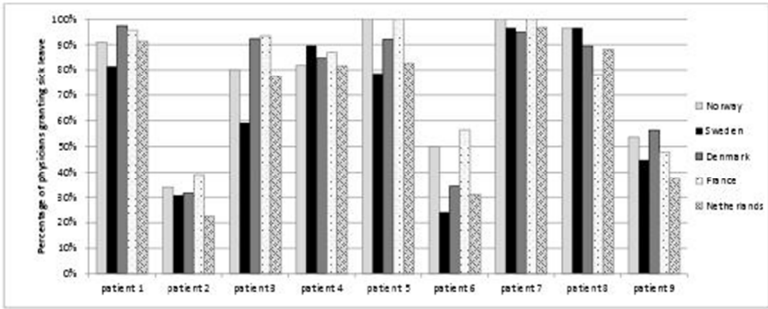
16. Nilsen S, Werner EL, Mæland S *et al.* Considerations made by the general practitioner when dealing with sick-listing of patients suffering from subjective and composite health complaints. *Scand J Primary health care* 2011; 29(1):7-12

17. de Boer WEL, Mousavi SM, Delclos GL, Benavides FG, Lorente M, Kunz R. Expectations of sickness absence duration: A review on statements and methods used



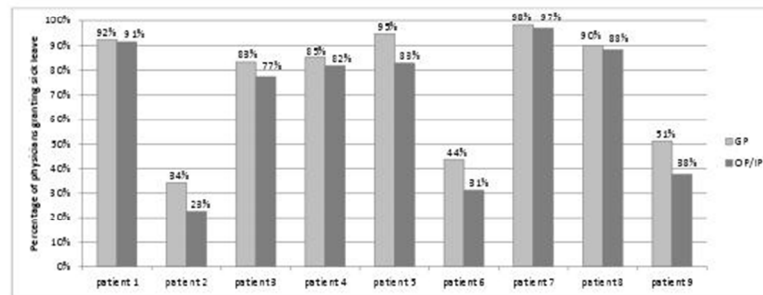
- in guidelines in Europe and North America. *Eur J Pub Health* 2015; 1-6  
doi:10.1093/eurpub/ckv222
18. Försäkringsmedicinskt beslutstöd (Decision support for insurance medicine)  
<http://www.socialstyrelsen.se/riktlinjer/forsakringsmedicinsktbeslutsstod>
19. Hartman O, Blankenstein AH, Molenaar AO *et al.* NHG Guideline on Medically Unexplained Symptoms (MUS). *Huisarts Wet* 2013;56(5):222-30
20. Caisse nationale de l'assurance maladie des travailleurs salariés. Fiches repères pour arrêt de travail (Reference documents for sick leave). Paris 2013;  
<http://www.ameli.fr/professionnels-de-sante/medecins/exercer-au-quotidien/aide-a-la-pratiquememos/les-memos-de-bonne-pratique/arrets-de-travail-des-referentiels-de-duree>
21. Carlsen B, Norheim OF. "Saying no is no easy matter" A qualitative study of competing concerns in rationing decisions in general practice. *BMC Health Services Research* 2005; 5:70 **DOI:** 10.1186/1472-6963-5-70
22. Werner EL, Côté P, Fullen B, Hayden J. Physicians' Determinants for Sick-listing LBP Patients: A Systematic Review. *Clin J Pain* 2012;28(4):364-71
23. Wainwright E, Wainwright D, Keogh E, Eccleston C. The social negotiation of fitness for work: tensions in doctor-patient relationship over medical certification of chronic pain. *Health* 2015;19(1):17-33
24. Englund L, Tibblin G, Svardsudd K. Variations in sick-listing practice among male and female physicians of different specialities based on case vignettes. *Scand J Prim Health Care* 2000; 18:48-52.
25. Peterson MC, Holbrook JH, Von Hales D, Smith NL, Staker LV. Contributions of the history, physical examination, and laboratory investigation in making medical diagnoses. *West J Med* 1992; 156:163-5.

Figure 1: Percentage of GPs from Norway, Sweden, Denmark, and France, and OPs/IPs from the Netherlands granting sick leave to patients 1-9.



297x210mm (60 x 60 DPI)

Figure 2: Percentage of the total sample of GPs (Norwegian, Danish, Swedish and French together) and occupational physicians (Dutch) granting sick leave for patients 1-9.



297x210mm (60 x 60 DPI)

**Appendix 1**

**Questionnaire**

The questionnaire opens with demographic questions about the respondent (the physician) – regarding

- Years in practice
- Gender
- Age
- Specialty / specialties

The following questions are to be answered following each of the nine video vignettes (one for each vignette):

- Which diagnosis will you select for this patient (preferably according to the ICPC diagnosis code system) – the respondent are asked to list up to three diagnosis, the principal one first
- Would you recommend any of the following benefits for this patient:
  - 100% sick leave
  - Graded sick leave – please indicate level in percent:    %
  - Not sick listed
  - Permanent disability
- If you chose recommendation of sick listing, how long would you expect this to last
  - Up to one week
  - 1-2 weeks
  - 2-4 weeks
  - More than 4 weeks
- Please give your assessment of the following statements:  
(responses on a Likert scale: totally agree, agree, neither agree or disagree, partly disagree, totally disagree)
  - The working conditions is the underlining cause for the patient’s complaints
  - Private matters are the underlining cause for the patient’s complaints

- A medical condition is the most important cause for the patient's complaints
  - Lack of motivation may be a underlining problem for this patient
  - The complaints may be worsened or the healing process may be prolonged unless the patient is sick listed
- How do you assess the overall health condition at this patient?  
(very good, good, fairly good, bad, very bad)

**Course program – including data collection**

**Time schedule as performed in Norway, France and The Netherlands**

- 09:00 Welcome, introduction, registration
- 09:30 – 11:00: Video vignettes – shown on wide screen or separate PC’s, one by one, followed by individual responding on questionnaire
- 11:00– 11:15: Brief discussion on the study, comments to the questionnaire etc.
- 11:15 – 11:45: Break & Coffee
- 11:45 – 13:00: Video vignettes – shown on wide screen or separate PC’s, one by one, followed by individual responding on questionnaire
- 13:00 – 13:30: Lunch break
- 13:30 – 14:15: Video vignettes – shown on wide screen or separate PC’s, one by one, followed by individual responding on questionnaire
- 14:15 – 15:00: Lecture on the physician’s role in the sick listing process, by Erik L Werner
- 15:00 – 15:15: Break & Coffee
- 15:15 – 16:00: Lecture on patients with severe subjective health complaints / MUPS – by various researchers (depending on country)
- 16:00 – 16:45: Plenary discussion on patients with severe subjective health complaints and work ability
- 16:45 – 17:00: Summary & evaluation



# BMJ Open

## Physicians' assessments of work capacity in patients with severe subjective health complaints – a cross-sectional study on differences between five European countries

Journal:	BMJ Open
Manuscript ID	bmjopen-2016-011316.R2
Article Type:	Research
Date Submitted by the Author:	07-Jun-2016
Complete List of Authors:	Werner, Erik ; Institute of Health and Society , Department of General Practice; Uni Research Health, Research Unit for General Practice Markus, Suzanne; Uni Research Health Maeland, Silje; Uni Research AS; Hogskolen i Bergen, Department of Occupational Therapy, Physiotherapy and Radiography Jourdain, Maud; Universite de Nantes, Department of General Practice Schaafsma, F; VU medisch centrum School of Medical Sciences, Department of Public and Occupational Health; AMC-UMCG-UWV-VUmc, Research Center for Insurance Medicine CANEVET, Jean-Paul; Faculty of Medicine, General Practice Weerdesteijn, Kristel; VU medisch centrum School of Medical Sciences RAT, Cédric; Faculty of Medicine, Department of General Practice; French National Institute of Health and Medical Research (INSERM U892) / National Center for Scientific Research (CNRS U6299) - Team 2, Anema, Han; VU University Medical Center, Public and Occupational HealthEMGOInstitute
<b>Primary Subject Heading</b>:	Occupational and environmental medicine
Secondary Subject Heading:	General practice / Family practice
Keywords:	GENERAL MEDICINE (see Internal Medicine), HEALTH SERVICES ADMINISTRATION & MANAGEMENT, OCCUPATIONAL & INDUSTRIAL MEDICINE, PAIN MANAGEMENT, PRIMARY CARE, PUBLIC HEALTH

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**Physicians’ assessments of work capacity in patients with severe subjective health complaints – a cross-sectional study on differences between five European countries**

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## ABSTRACT

**Objectives:** A comparison of appraisals made by GPs in France and OPs and IPs in the Netherlands to those made by Scandinavian GPs on work capacity in patients with severe subjective health complaints (SHC).

**Setting:** GPs in France and OPs/IPs in the Netherlands gathered to watch nine authentic video recordings from a Norwegian general practice.

**Participants:** 46 GPs in France and 93 OPs/IPs in the Netherlands were invited to a one-day course on SHC.

**Outcomes:** Recommendation of sick leave (full or partial) or no sick leave for each of the patients.

**Results:** Compared to Norwegian GPs, sick leave was less likely to be granted by Swedish GPs (OR 0.51, 95% CI 0.30-0.86) and by Dutch OPs/IPs (OR 0.53, 95% CI 0.37-0.78). The differences between Swedish and Norwegian GPs were maintained in the adjusted analyses (OR 0.43, 95% CI 0.23-0.79). This was also true for the differences between Dutch and Norwegian physicians (OR 0.55, 95% CI 0.36-0.86). Overall, compared to the GPs, the Dutch OPs/IPs were less likely to grant sick leave (OR 0.60, 95% CI 0.45-0.87).

**Conclusion:** Swedish GPs and Dutch OPs/IPs were less likely to grant sick leave to patients with severe SHC compared to GPs from Norway, while GPs from Denmark and France were just as likely to grant sick leave as the Norwegian GPs. We suggest that these findings may be due to guidelines on sick-listing and on patients with severe SHC which exist in Sweden and the Netherlands respectively. Differences in the working conditions, relationships with patients and training of specialists in occupational medicine may also have affected the results. However, a pattern was observed in which patients physicians in all countries thought should be sick-listed, suggesting that the physicians share tacit knowledge regarding sick leave decision making in patients with severe SHC.

ARTICLE SUMMARY

Strengths and limitations of this study

- This is the first study where physicians from five countries assess work capacity of the same patients
- This is the first study to compare sick leave appraisals between physicians with different roles, i.e. the dual role of GP as care provider and gatekeeper compared to the role of OP/IP as gatekeeper only
- The study design used video vignettes that reflect real life better than the written vignettes often used in training
- The vignettes were translated into different languages which may have resulted in the loss of small nuances in the discussions between the patients and the physicians
- Subtitles may draw attention away from the non-verbal communication in the vignettes

## INTRODUCTION

The sickness absence rate is of great concern in the Western world<sup>1</sup>. Both the economic burden on society and the individual health problems related to sickness absence make this topic a frequent issue in politics and research.

In most countries general practitioners (GPs) are responsible for issuing the majority of sick certifications, as in Norway where about 80% of the sick certifications are issued by a GP<sup>2</sup>. The complex process of sickness absence is determined by several stakeholders, such as the patient in question, the physician, the workplace and the cultural and economic conditions of the society<sup>3</sup>. Controlling officials for sick leave certification, such as occupational and insurance physicians, are also stakeholders who can influence sick leave duration<sup>4</sup>. Each of these stakeholders plays a significant role in every sick note. Most research on sickness absence has focused on characteristics related to the individual or the workplace. The role of the physician and the culture and legislation of the country have received less attention.

We have previously reported on a study in which Scandinavian GPs assessed diagnoses and work capacity of patients with severe subjective health complaints (SHC)<sup>5,6</sup>. In that study, 126 GPs from Norway, Sweden and Denmark watched authentic video recordings from a Norwegian general practice where nine different patients discussed their health issues and their difficulties with staying at work with their GP. While the GPs proposed a great variety of diagnoses for each of the patients they assessed, mostly symptom-based, they agreed to a large extent in their assessments of work capacity<sup>5,6</sup>.

Although there are variations in the different Scandinavian countries' legislations on benefits, one could assume that cultural similarities (habits, traditions and moral standards<sup>4</sup>) may account for the agreement among the GPs in Norway, Sweden and Denmark. It would therefore be of interest to investigate whether GPs in another European country assessed the patients in the video vignettes differently.

Furthermore, it has been questioned whether GPs should continue to have the dual role of health care provider and gatekeeper for compensation following sickness absence<sup>3,7</sup>. In some countries, like the Netherlands, these two tasks are separated so that an individual with reduced work capacity has to be assessed by an Occupational Physician (OP) or an Insurance Physician (IP) in order to receive compensation during sick leave<sup>8</sup>. While GPs may be accused of being too close to their patients to be objective in their assessment of work capacity, the opposite may be true for the OPs and IPs who are engaged by the employer or social security agency respectively. Given these differences between the European countries, it should be interesting to add assessments made by Dutch OPs and IPs to this study.

The aim of this study were therefore to investigate whether GPs in France and OPs and IPs in the Netherlands assess the work capacity of patients with severe SHC differently, compared to the existing data from the previous study on Scandinavian GPs.

## METHODS AND MATERIAL

### Study design

In this cross sectional study, we have compared physicians’ assessments of work capacity in patients with SHC. In order to do so, we asked physicians from France and the Netherlands to watch nine video vignettes and provide their assessments on a questionnaire for each vignette. The vignettes and questionnaire were previously used in a study of GPs in Norway, Sweden and Denmark<sup>5</sup>, which made a comparison of assessments possible.

Patient group

In the previous study, all the patients were reported to have *severe Subjective Health Complaints* (SHC)<sup>5,9</sup>. This term is largely identical to the more common terms *Medically Unexplained Physical Symptoms* (MUPS) or *Medically Unexplained Symptoms* (MUS). The term *Bodily Distress Syndrome* (BDS) has also been suggested<sup>10</sup>. All these terms refer to patients with health complaints “defying the clinical picture of known, verifiable, conventionally defined diseases and unbacked by clinical or paraclinical findings”<sup>11</sup>. Although all these terms are controversial, they refer to conditions well-known to clinicians, such as unspecific pain from the musculoskeletal system, fatigue, feelings of mood disturbances and other unspecific symptoms<sup>12</sup>. The prevalence of patients with MUPS has been reported from 3% to 33% in general practice<sup>13</sup>. In this paper we use the terms MUPS and SHC synonymously.

We have chosen this patient group for our study because patients with MUPS have a higher risk for sickness absence<sup>14</sup> and physicians find it more difficult to assess their work capacity than that of patients with specific and well defined conditions<sup>15,16</sup>. We assumed that assessment of work capacity in patients with SHC reflected personal attitudes, relationships with patients and individual judgments to a larger extent than assessments of pneumonia, heart attacks and fractures, which more often follow a predictable course.

The videos consisted of 9 authentic consultations from a Norwegian general practice showing patients with severe SHC claiming to be too ill for work (Table 1). The original films were transcribed and re-recorded with professional actors in the patients’ roles. The films were provided with French and Dutch subtitles created by a professional translation bureau. Each vignette had a short introduction by the GP with some background information and results of medical investigations.

**Table 1:** Description of the patients presented in the video vignettes<sup>5</sup>

Vignette	Gender, age	Demography	Complaints
1	♀, 25	Single, no children Interrupted secondary education Currently in a rehabilitation program Several short-term jobs and sick leave spells	Generalized, widespread pain Neck and back pain Anxiety and depression Respiratory complaints



2	♂, 40	Married, two children Working off shore on an oil platform – two weeks on, four weeks off work Several shorter periods of sick leave and two long spells	Neck and back pain Sleep disturbances due to pain Irritable bowel syndrome
3	♀, 53	Housewife for 20 years with five foster children and two biological children The foster care has ended and, consequently, her income No formal education or work experience outside the home	Generalized, widespread pain Anxiety Fatigue
4	♂, 37	Married, unknown number of children Previously worked off shore but is now self-employed in construction	Severe fatigue Economic burden due to loss of work capacity
5	♂, 42	Married, three children Works as a formwork carpenter No previous history of sick leave	He feels physically and mentally exhausted A 12-year old daughter with serious behavioural problems; enrolled in a behavioural training program which demands a great deal of parental involvement Afraid that he might collapse No energy left to deal with his daughter after work
6	♀, 37	No information on marital status or children Working in a kindergarten Previous four-month sick leave for the same complaints was followed by no symptoms for one and a half years	Periodic numbness, starting like a toothache, followed by a headache and a sensation of anaesthesia on the right side of the body Extensive medical investigation has found no cause for the symptoms
7	♀, 35	No information on marital status or children Working as a teacher in a primary school No previous history of sick leave or health complaints	Feeling tired, weak, doesn't get things done, powerless, sleep disturbances Relates the symptoms to work overload
8	♂, 36	Married, two small children Working as a teacher at a comprehensive level Active sports trainer, coaches a 1st division handball team No previous sick leave history, no previous psychiatric or somatic disorder Worries about possible serious illness despite negative examinations	Unspecific pain in jaw muscle, then the neck, head and stomach

9	♂, 38	Married, no children Works as a technician for an event bureau, producing big shows, theatre, films Commutes 270 km/week for work	General tiredness from work and commuting, low energy According to his wife, he is irritable and passive, even aggressive towards her
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Participant recruitment

France was chosen due to similarities in the working conditions of GPs in France and Scandinavia (self-employed, per capita payment, mostly small family medicine centers) but cultural differences in their history, language and religion. The region was chosen due to previous collaboration between the researchers in this study. Of the 2000 GPs in the departments of Loire Atlantique and Vendée, 200 were randomly selected and invited by letter to participate in the study. Of these, 34 agreed to participate. In order to reach a sufficient number of participants at the two sites, GPs were also contacted by telephone or e-mail and individually asked to participate. The French GPs were provided €350 each for their participation. In the Netherlands, invitations were sent by e-mail to all OPs from the country’s largest occupational health services and all IPs working with sickness certification at six offices of the Institute for Employee Benefit Schemes. The Dutch OPs and IPs attended the seminar as a Continued Medical Education activity.

Data collection

A sample of GPs in France gathered for a one-day seminar in order to collect the data. The same was done for a sample of OPs and IPs in the Netherlands. In both countries, the first part of the seminar was dedicated to data collection and the second part to courses and group discussions on the theme.

The participants were presented with nine case stories on video vignettes. Following each case story the participants were asked to answer a questionnaire (Appendix 1) to give their assessment of sick leave or not. (For details, see Mæland et al, 2013<sup>5</sup>.) Sick leave decisions were dichotomized into ‘no sick leave granted’ and ‘partial or 100% sick leave granted’.

The questionnaire also assessed background information regarding the physician’s age, gender and work experience. Further, the physicians were asked to provide up to three diagnoses for each patient; these were categorised according to chapters of the ICPC-2: Generalised and unspecific (A); Musculoskeletal (L); Psychological (P); and other organ chapters. Additionally, participating physicians were asked to respond to statements related to the cause of complaints and sick leave, and to the patients’ ability to work. These statements were: “The work situation is the main reason for the patient’s complaints”, “Their private life is the main reason for the patient’s complaints”, “Medical and health related factors are the main reasons for granting sick leave”, “The patient is not motivated to work”, “If the patient is not sick-listed, the complaints will worsen or the healing process will be slower ” and “How would you judge the patient’s ability to work?” Answers were given on a five-point Likert

scale ranging from strongly agree to strongly disagree for all questions, except for those relating to workability which had answers ranging from negligibly reduced to very much reduced. The answers on the Likert scale were dichotomised for the analyses.

## STATISTICS

The nine questionnaires from all participating physicians were transferred into a statistics program. Statistical analyses were performed in IBM SPSS Statistics 22.0. Statistical significance was set to  $p < 0.05$ . Between-countries differences in background variables were tested with Chi-square tests for gender and Kruskal-Wallis tests for age and work experience.

Sick leave decisions (no/yes) were the main outcome of the study. Differences between countries regarding the physicians' sick leave decisions were tested with generalized linear mixed models (GLLM) analyses with country and patient as factor, and a random slope for doctor. Norway was used as a reference country. GLLM analyses were also used to test differences between doctor specialization (GP or OP/IP) regarding sick leave decisions; the model included specialization and patient as factors, and a random slope for doctor.

Assessment of confounding was done for the background variables of the physicians, as well as for diagnosis, reported cause for health complaints, reasons for sick leave and work capacity. Assessment of confounding was done separately for between-country differences and for differences between GPs and OPs/IPs. Confounders were first identified by determining whether an association existed between the outcome and the potential confounder. Secondly, when an association was significant, it was added to the model and confounding was assessed by a 10% change in the main effect estimates for country (1<sup>st</sup> analysis) or physician specialty (2<sup>nd</sup> analysis). Lastly, all identified confounders were simultaneously added to the crude model. The crude and adjusted model results are presented as odds ratios (OR).

## RESULTS

A total of 46 GPs in France and 93 OPs/IPs in the Netherlands participated in the study and gave their assessments of the nine video vignettes (Table 1). In this study we compared these data with the results previously reported by 56 GPs in Norway, 29 GPs in Sweden and 41 GPs in Denmark.

**Table 2:** Demographic information of participating GPs from Norway, Sweden, Denmark and France, and OPs/IPs from the Netherlands.

	Norway (n=56)	Sweden (n=29)	Denmark (n=41)	France (n=46)	Netherlands (n=93)	p-value
	n (%)	n (%)	n (%)	n (%)	n (%)	
Gender						
Male	36 (64)	12 (43)	14 (34)	19 (41)	52 (56)	0.018
Female	20 (36)	16 (57)	27 (66)	27 (59)	41 (44)	
Age						

<40 yrs	15 (27)	5 (18)	5 (12)	15 (33)	12 (13)	0.001
41-50 yrs	21 (38)	6 (21)	19 (46)	12 (26)	21 (23)	
51-60 yrs	17 (30)	13 (47)	16 (39)	14 (30)	39 (42)	
>61 yrs	3 (5)	4 (14)	1 (3)	5 (11)	21 (23)	
Work experience						
<10 yrs	21 (38)	10 (36)	22 (54)	16 (35)	18 (19)	0.002
11-15 yrs	12 (21)	4 (14)	9 (22)	6 (13)	23 (25)	
>16 yrs	23 (41)	14 (50)	10 (24)	24 (52)	52 (56)	

For gender a statistically significant difference was found between the countries ( $p=0.018$ ). There were more male than female physicians in the samples from Norway and the Netherlands (Table 2).

Statistically significant differences were found between the countries for age ( $p=0.001$ ) and for work experience ( $p=0.002$ ). The physicians in Norway and Denmark were somewhat younger than those in the other countries. The OPs and IPs in the Netherlands tended to have more work experience compared to the physicians from other countries.

Sick leave decisions

For each country, the percentage of physicians granting sick leave is given in Figure 1. This figure shows that there were small differences in the way each patient was assessed in the various countries, and that in every country, patients 2, 6 and 9 were granted sick leave far less often than the other patients. When comparing the other countries to Norway, differences in the decisions made regarding patients' sick leave varied from 0% to 26%. Overall, statistically significant differences were found between the countries (Table 3). Compared to GPs in Norway, sick leave was less likely to be granted by GPs in Sweden (OR 0.51, 95% CI 0.30-0.86) and by OPs/IPs in the Netherlands (OR 0.53, 95% CI 0.37-0.78). The analyses were adjusted for work capacity, medical cause as main reason for sick leave and work situation as main reason for health complaints. The differences between GPs in Sweden and Norway were maintained in the adjusted analyses (OR 0.43, 95% CI 0.23-0.79). This was also true for the differences between physicians in the Netherlands and Norway (OR 0.55, 95% CI 0.36-0.86).

**Table 3:** Crude and adjusted OR for the probability that GPs from Sweden (n=29), Denmark (n=41) and France (n=46) and OPs/IPs from the Netherlands would grant sick leave, compared to Norwegian GPs.

	Crude model			Adjusted model		
	OR	95% CI	p	OR	95% CI	p
Norway	1			1		
Sweden	0.51	0.30–0.86	0.012	0.43	0.23–0.79	0.006
Denmark	0.89	0.56–1.42	0.619	1.05	0.64–1.73	0.851

France	1.10	0.73–1.65	0.641	1.11	0.67–1.85	0.679
The Netherlands	<b>0.53</b>	<b>0.37–0.78</b>	<b>0.001</b>	<b>0.55</b>	<b>0.36–0.86</b>	<b>0.009</b>
Workability						
Normal				1		
Reduced				11.28	7.60–16.75	<0.001
Medical cause for sick leave						
Disagree				1		
Agree				6.28	4.43–8.92	<0.001
Work related complaints						
Disagree				1		
Agree				2.24	1.60–3.13	<0.001

*Please insert Figure 1 about here*

In Table 4 and Figure 2 we have compared the OPs and IPs in the Netherlands to all GPs. Differences between the GPs and OPs/IPs in the Netherlands were between 1% and 13% (Figure 2). Overall, compared to the GPs, the OPs/IPs in the Netherlands were less likely to grant sick leave (OR 0.60, 95% CI 0.45–0.87). In adjusted analyses, with diagnosis chapter (ICPC-2) as the only confounder, the difference between the GPs from other countries and the OPs/IPs in the Netherlands remained (OR 0.67, 95% CI 0.49–0.93). The interactions between doctors and diagnosis showed that OPs/IPs in the Netherlands were less likely to grant sick leave than GPs when a diagnosis under chapter A ('General and unspecific' in the ICPC-2 system) was given rather than another diagnosis.

**Table 4:** Crude and adjusted OR for the probability that OPs/IPs from the Netherlands would grant sick leave, compared to GPs from the other countries.

	Crude model			Adjusted model			Adjusted model w/interactions		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
General Practitioner	1			1			1		
OP or IP	<b>0.60</b>	<b>0.45–0.87</b>	<b>0.001</b>	<b>0.67</b>	<b>0.49–0.93</b>	<b>0.016</b>	0.94	0.35–2.51	0.896
GP ICPC-2 chapter									
Other organ chapters				1			1		
General and unspecified (A)				1.51	0.95–2.39	0.080	<b>1.87</b>	<b>1.15–3.05</b>	<b>0.012</b>
Musculoskeletal (L)				1.39	0.79–2.42	0.254	1.36	0.75–2.47	0.310
Psychological (P)				1.75	1.16–2.65	0.007	1.78	1.14–2.77	0.012
OP/IP* ICPC-2 chapter									
OP/IP*Other organ chapters							1		
OP/IP*General and unspec (A)							<b>0.28</b>	<b>0.09–0.92</b>	<b>0.036</b>
OP/IP*Musculoskeletal (L)							0.91	0.29–2.85	0.873
OP/IP*Psychological (P)							0.77	0.28–2.10	0.613

*Please insert Figure 2 about here*

DISCUSSION

In this study, GPs from Sweden and OPs/IPs from the Netherlands were less likely to grant sick leave to patients with severe SHC compared to GPs from Norway, while GPs from Denmark and France were just as likely to grant sick leave as GPs from Norway. However, the pattern of deciding which patients should be sick-listed was quite similar in all countries. The comparison based on physician specialization showed that, overall, OPs and IPs were less likely to grant sick leave than GPs.

As previously stated, this study was based on the same material as a previous study on GPs from Norway, Sweden and Denmark<sup>5,6</sup>. In the previous study the GPs' assessments were tested one by one for each of the nine vignettes and no significant differences were reported between the GPs from the three countries with one exception<sup>5</sup>. A significant difference was found between GPs from Norway and Sweden in their assessments on patients given a P diagnosis ('Psychiatric diagnoses' in the ICPC-2 system). This may, to some extent, explain the differences in the assessments made by GPs from Norway and Sweden in this study. Furthermore, in the present study we have combined the assessments for all nine vignettes in order to study the main effects for each country. This may have produced a different result than testing for each vignette separately, i.e. with an interaction between country and patients. Also, when considering the relatively large difference between the countries for some patients, i.e. 21-26% for patients 3, 5 and 6, the small sample size may have limited the power of the analyses in the previous study.

Although none of the participants in this study had any relationship to the patients, one may assume that the differences in assessments observed between GPs from Sweden and OPs/IPs from the Netherlands on the one side, and the GPs from Norway, Denmark and France on the other, reflect real differences in attitudes, knowledge and practices in their sick-listing patterns in real life. In order to interpret the findings it is important to look at differences in the training, social security legislation, culture and organizational settings of these physicians.

Regarding management of severe SHC and social security legislation, both Sweden and the Netherlands have launched guidelines including information which may be of value in the assessment of patients with SHC<sup>17</sup>. In 2007, Sweden created a national guideline assigning a specific length of sick leave to all medical conditions<sup>18</sup>, and in the Netherlands national guidelines on the management of MUS have been available since 2013<sup>19</sup>. These guidelines may have improved general knowledge on the difficult task of assessing work capacity in patients with SHC. The French guidelines on recommended duration of sick leave do not apply to SHC as all conditions listed are specific and well defined medical diagnoses<sup>20</sup>.



The training of specialists in occupational medicine, such as OPs and IPs, probably created differences between them and the physicians in this study. IPs and OPs in the Netherlands were less likely to grant sick leave compared to the GPs in Norway as well as compared to the combined sample of GPs from all four countries. However, GPs in Sweden were even less likely to grant sick leave than the OPs and IPs in the Netherlands. Therefore, this study indicates that the specific training of OPs and IPs may have an impact on their decision-making, but training alone does not account for all the differences between OPs/IPs and GPs found in this study.

In terms of organizational differences, GPs in Norway are self-employed and paid on a per-capita fee, as are GPs in Denmark and France, while GPs in Sweden work in multidisciplinary community health centers and have a fixed salary. The OPs/IPs in the Netherlands also have a fixed salary, and they work in large settings of multidisciplinary occupational health services or within social security agencies. A qualitative study from Norway suggests that GPs feel somewhat economically dependent on their patients which may affect their gatekeeper role<sup>21</sup>.

In a previous systematic review of physicians' determinants for sick-listing low back pain patients, the question was raised whether "the otherwise beneficial patient-physician relationship and physicians' care for their patients may be an obstacle to following guidelines on LBP management in the sick-listing process"<sup>22</sup>. The present study may be interpreted as supporting this statement if we assume that GPs from Sweden and OPs/IPs from the Netherlands are less closely related to their patients than the GPs from the other countries, due to differences in the encounter settings.

It is also important to highlight the similarities in the assessments of the participating physicians. The same pattern of patients recommended to be sick-listed or not, was found in every country and between GPs and OPs/IPs in the study. In all countries, patients number 2, 6 and 9 were deemed less likely to be sick-listed, while more than 80% of the physicians in each country recommended sick leave for patients number 1, 4, 7 and 8.

The concept of tacit knowledge has gained increasing attention in research<sup>23</sup> and may be applicable to our understanding of the similar assessments provided by all the participants in this study. Listening to the case stories of vignettes number 2, 6 and 9, it is not obvious why they were assessed differently than the other stories of severe SHC. Nevertheless, there is something about these stories, or these patients, that inspired a different assessment than the other vignettes. We believe this calls for further research on medical judgment and tacit knowledge as important factors in physicians' decision making on sick leave.

### Strengths and limitations

To our knowledge this is the first study comparing physicians' sick leave appraisals using video vignettes. This design reflects real life better than the written vignettes often used in training<sup>24</sup> because the nonverbal information derived from videos plays an important role in a physician's assessment<sup>25</sup>. It is also the first study to directly compare sick leave appraisals between physicians with different roles, i.e. the dual role of GP as primary care giver and gatekeeper compared to the role of OP/IP as gatekeeper only. Any comparison to previous research is therefore difficult to provide.

However, as this design does not seem to have been performed previously, the generalizability of the results is uncertain. For example, the limited number of participants and the fact that only one region in France was covered, may inhibit the generalizability of the study.

It may be argued that a weakness of the study is the fact that the video vignettes did not allow for interaction between the participating physicians and the patients, which may have influenced the appraisals. However, information derived from an appointment with a fixed time is also limited and in this way the vignettes do not differ significantly from the normal basis for the physicians' decision making.

For the comparison with physicians in other countries, the videos were translated into their native language by a professional translation bureau. However, there is a small chance that some nuances in the discussions between the patients and physicians were lost in translation. It is also possible that physicians from countries other than Norway were distracted by the subtitles and missed some of the non-verbal communication.

CONCLUSION

In this study, GPs from Sweden and OPs/IPs from the Netherlands were less likely to grant sick leave to patients with severe SHC compared to GPs from Norway. GPs in Denmark and France were just as likely to grant sick leave as GPs in Norway. We suggest that these variations may reflect differences in attitudes, competencies and practices due to guidelines in both Sweden and the Netherlands which do not exist in the other countries. We also suggest that they are related to differences in the settings of the physicians' practices. Differences between the OPs/IPs and the GPs may reflect their specialty training. However, similar patterns in all of the countries' sick-listing decisions call for a broader interpretation of this study. Further research is needed to clarify whether the small but statistically significant differences observed in this study are clinically and economically significant. Further research should also explore which characteristics of patients number 2, 6 and 9 caused them to be assessed differently than the other patients by all physicians in this study, given that all nine patients were suffering from SHC.

ETHICS, FUNDING, DATA SHARING

All patients have consented to the use of their original consultation for the purpose of education and research, although anonymity is maintained through the use of professional actors in the vignettes.

The Dutch part of the study was funded by The Norwegian Labour and Welfare Administration through The FARVE program, and the French part by L'Agence Régionale de Santé and La Caisse d'Assurance Maladie de Nantes, France.

No additional data are available.

## STATEMENT OF CONTRIBUTION

ELW was responsible for, and involved in, all parts of the study. SLM organized the Dutch part of data collection and was responsible for the analysis. SM was responsible for the Scandinavian part of the study. MJ, JPC and CR were responsible for the French part of the study. KW, FS and JRA were responsible for the Dutch part of the study. All authors gathered for a two-day seminar on the findings and participated in the production of the paper.

## COMPETING INTERESTS

None declared

## REFERENCES

1. European Commission. Europe 2020 targets 2010. [http://ec.europa.eu/europe2020/reaching-the-goals/targets/index\\_en.htm](http://ec.europa.eu/europe2020/reaching-the-goals/targets/index_en.htm)
2. Brage S, Kann IC. Fastlegers sykmeldingspraksis. 1: Variasjoner (Variations in how GPs grant sick leave) Oslo: Rikstrygdeverket; 2006
3. Werner EL, Côté P. Low back pain and determinants of sickness absence. *Eur J Gen Pract* 2009; 15: 74-79
4. Beemsterboer WGM. On regional differences in sick leave. The role of work, individual and health characteristics and socio-cultural environment. Maastricht 2009; ISBN 978-90-5278-721-3
5. Mæland S, Werner EL, Rosendal M *et al*. Sick-leave decisions for patients with severe subjective health complaints presenting in primary care: A cross-sectional study in Norway, Sweden and Denmark. *Scand J Prim Health Care* 2013; 31(4);227-34
6. Mæland S, Werner EL, Rosendal M *et al*. Diagnoses of Patients with Severe Subjective Health Complaints in Scandinavia: A cross Sectional Study. ISRN Public Health Vol 2012; Article ID 851097. <http://dx.doi.org/10.5402/2012/851097>
7. Gerner U, Alexanderson K. Issuing sickness certificates: a difficult task for physicians: a qualitative analysis of written statements in a Swedish survey. *Scand J Public Health* 2009; 37(1): 57-63
8. Sickness, Disability and Work: Breaking the Barriers. Vol 3: Denmark, Finland, Ireland and the Netherlands. OECD Publishing 2008; ISBN 978-92-64-04968-0
9. Eriksen HR, Ursin H. Subjective health complaints, sensitization, and sustained cognitive activation (stress). *J of Psychosomatic Research* 2004; 56(4): 445-48

10. Creed F, Guthrie E, Fink P *et al.* Is there a better term than “Medically unexplained symptoms”? *J of Psychosomatic Research* 2010; 68(1): 5-8

11. Fink P, Toft T, Hansen MS *et al.* Symptoms and Syndromes of Bodily Distress: An Exploratory Study of 978 Internal Medical, Neurological, and Primary Care Patients. *Psychosomatic Medicine* 2007; 69: 30-39

12. Mayou R. Medically unexplained physical symptoms. *BMJ* 1991; 303: 534-5

13. Aamland A, Malterud K, Werner EL. Patients with persistent medically unexplained physical symptoms: a descriptive study from Norwegian general practice. *BMC Family Practice* 2014; 15:107 <http://www.biomedcentral.com/1471-2296/15/107>

14. Loengaard K, Bjorner JB, Fink P *et al.* Medically unexplained symptoms and the risk of loss of labor market participation – a prospective study in the Danish population. *BMC Public Health* 2015; 15:844. DOI 10.1186/s12889-015-2177-4

15. Von Knorring M, Sundberg L, Lofgren A, Alexanderson K. 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

16. Nilsen S, Werner EL, Mæland S *et al.* Considerations made by the general practitioner when dealing with sick-listing of patients suffering from subjective and composite health complaints. *Scand J Primary health care* 2011; 29(1):7-12

17. de Boer WEL, Mousavi SM, Delclos GL, Benavides FG, Lorente M, Kunz R. Expectations of sickness absence duration: A review on statements and methods used in guidelines in Europe and North America. *Eur J Pub Health* 2015; 1-6  
doi:10.1093/eurpub/ckv222

18. Försäkringsmedicinskt beslutstöd (Decision support for insurance medicine) <http://www.socialstyrelsen.se/riktlinjer/forsakringsmedicinsktbeslutsstod>

19. Hartman O, Blankenstein AH, Molenaar AO *et al.* NHG Guideline on Medically Unexplained Symptoms (MUS). Huisarts Wet 2013;56(5):222-30

20. Caisse nationale de l’assurance maladie des travailleurs salariés. Fiches repères pour arrêt de travail (Reference documents for sick leave). Paris 2013;  
<http://www.ameli.fr/professionnels-de-sante/medecins/exercer-au-quotidien/aide-a-la-pratiquememos/les-memos-de-bonne-pratique/arrets-de-travail-des-referentiels-de-duree>

21. Carlsen B, Norheim OF. “Saying no is no easy matter” A qualitative study of competing concerns in rationing decisions in general practice. *BMC Health Services Research* 2005; 5:70 DOI: 10.1186/1472-6963-5-70

22. Werner EL, Côté P, Fullen B, Hayden J. Physicians’ Determinants for Sick-listing LBP Patients: A Systematic Review. *Clin J Pain* 2012;28(4):364-71

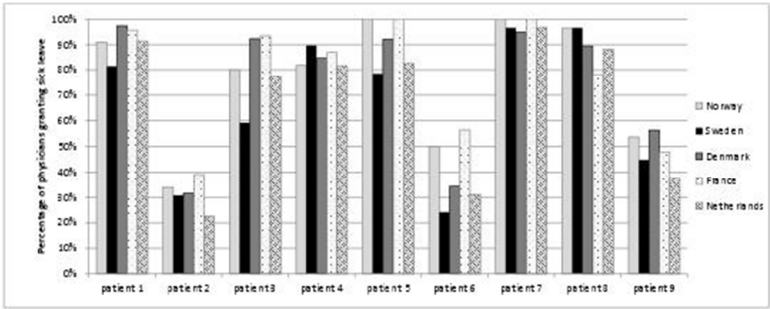
23. Wainwright E, Wainwright D, Keogh E, Eccleston C. The social negotiation of fitness for work: tensions in doctor-patient relationship over medical certification of chronic pain. *Health* 2015;19(1):17-33

24. Englund L, Tibblin G, Svardsudd K. Variations in sick-listing practice among male and female physicians of different specialities based on case vignettes. *Scand J Prim Health Care* 2000; 18:48–52.

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2  
3 25. Peterson MC, Holbrook JH, Von Hales D, Smith NL, Staker LV. Contributions of the  
4 history, physical examination, and laboratory investigation in making medical  
5 diagnoses. West J Med 1992; 156:163–5.  
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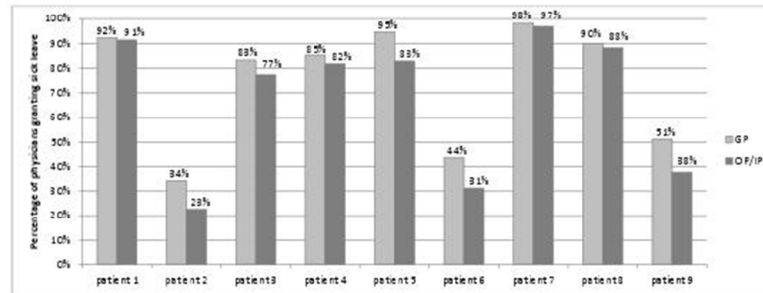
Figure 1: Percentage of GPs from Norway, Sweden, Denmark, and France, and OPs/IPs from the Netherlands granting sick leave to patients 1-9.



297x210mm (60 x 60 DPI)



Figure 2: Percentage of the total sample of GPs (Norwegian, Danish, Swedish and French together) and occupational physicians (Dutch) granting sick leave for patients 1-9.



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**Appendix 1**

**Questionnaire**

The questionnaire opens with demographic questions about the respondent (the physician) – regarding:

- Years in practice
- Gender
- Age
- Specialty / specialties

The following questions are to be answered following each of the nine video vignettes (once for each vignette):

- Which diagnosis will you select for this patient (preferably according to the ICPC diagnosis code system) – the respondents are asked to list up to three diagnoses, the principal one first
- Would you recommend any of the following benefits for this patient:
  - 100% sick leave
  - Graded sick leave – please indicate the level as a percentage:     %
  - No sick leave
  - Permanent disability
- If you recommended sick-listing, how long would you expect it to last:
  - Up to 1 week
  - 1-2 weeks
  - 2-4 weeks
  - More than 4 weeks
- Please give your assessment of the following statements:  
(responses on a Likert scale: totally agree, agree, neither agree or disagree, partly disagree, totally disagree)
  - Working conditions are the underlying cause of the patient’s complaints
  - Private matters are the underlying cause of the patient’s complaints
  - A medical condition is the most important cause of the patient’s complaints
  - Lack of motivation may be an underlying problem for this patient
  - The complaints may worsen or the healing process may be prolonged if the patient is not sick-listed
- How do you assess the overall health of this patient?  
(very good, good, fairly good, bad, very bad)

## Course program – including data collection

### Time schedule as performed in Norway, France and the Netherlands

- 09:00 Welcome, introduction, registration
- 09:30 – 11:00: Video vignettes – shown on wide screen or separate PC's, one by one, followed by individual responses on the questionnaire
- 11:00– 11:15: Brief discussion of the study, comments on the questionnaire etc.
- 11:15 – 11:45: Break & coffee
- 11:45 – 13:00: Video vignettes – shown on wide screen or separate PC's, one by one, followed by individual responses on the questionnaire
- 13:00 – 13:30: Lunch break
- 13:30 – 14:15: Video vignettes – shown on wide screen or separate PC's, one by one, followed by individual responses on the questionnaire
- 14:15 – 15:00: Lecture on the physician's role in the sick-listing process, by Erik L Werner
- 15:00 – 15:15: Break & coffee
- 15:15 – 16:00: Lecture on patients with severe subjective health complaints / MUPS – by various researchers (depending on country)
- 16:00 – 16:45: Plenary discussion on patients with severe subjective health complaints and work ability
- 16:45 – 17:00: Summary & evaluation