

What makes physicians go to work while sick: a comparative study of sickness presenteeism in four European countries (HOUPE)

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Abstract

QUESTIONS UNDER STUDY: Sickness presenteeism is common in the health sector, especially among physicians, leading to high costs in terms of medical errors and loss in productivity. This study investigates predictors of sickness presenteeism in university hospitals, which might be especially exposed to competitive presenteeism. The study included comparisons of university hospitals in four European countries.

METHODS: A cross-sectional survey analysis of factors related to sickness behaviour and work patterns in the field of academic medicine was performed among permanently employed physicians from the HOUPE (Health and Organisation among University Physicians Europe) study: (Sweden $n = 1,031$, Norway $n = 354$, Iceland $n = 242$, Italy $n = 369$). The outcome measure was sickness presenteeism.

RESULTS: Sickness presence was more common among Italian physicians (86%) compared with physicians in other countries (70%–76%). Country-stratified analyses showed that sickness presenteeism was associated with sickness behaviour and role conflicts in all countries. Competition in the form of publishing articles was a predictor in Italy and Sweden. Organisational care for physician well-being reduced sickness presenteeism in all countries.

CONCLUSION: Sickness presenteeism in university hospitals is part of a larger behavioural pattern where physicians seem to neglect or hide their own illness. Factors associated with competitive climate and myths about a healthy doctor might contribute to these behaviours. Importantly, it is suggested that managers and organisations should work actively to address these questions since organisational care might reduce the extent of these behaviours.

Key words: *sickness presenteeism; physician health; work organisation; academic medicine*

Introduction

Going to work when feeling unwell is common in the health sector, especially among physicians [1–3]. The prevalence of sickness presenteeism varies from 80%–90% among physicians [2–6], in comparison with 30%–70% in other professions [7, 8]. The objective of the study was to investigate predictors of sickness presenteeism in university hospitals, which might be especially exposed to competitive presenteeism and to test whether organisational care for physician well-being might reduce presenteeism. The study included comparisons of university hospitals in four European countries.

Sickness presenteeism has important implications for individual physicians and for health care in general. For physicians themselves, working while sick increases the time for recovery and delays medical treatment. For example, studies have shown associations between sickness presence, future long-term sick-listing, and also coronary heart disease [9, 10]. For the health care system, sickness presenteeism entails costs in terms of medical errors, productivity loss [11–13], and reduced empathy with patients [9, 12, 14–16]. Theoretical models of sickness presenteeism include individual (e.g. health status, economy, attitudes to work) and contextual factors (e.g. organisation, job situation, societal insurance system) [8, 17, 18]. Previous literature has shown that physician sickness presenteeism is associated with poor physical health, low job satisfaction, speciality, and organisational cultures [2, 3, 19]. Physicians often report difficulties in replacement and consideration for colleagues and patients as reasons that stop them taking sick leave [2, 3]. Rosvold and Bjertness [19] found that physicians with low job satisfaction went to work more often than those with high job satisfaction, contrary to expectations [8]. When comparing specialities, surgeons more often went to work while ill than specialists in internal medicine [6], and it has been suggested that competitive environments foster sickness presenteeism [20].

Competitive academy

Working within academic medicine can be highly stressful and competitive, with potential role conflicts from the triple duties of patient care, clinical research and education. Physicians have to search for funding, write articles, get published, and find new areas worthy of research, often in competition with colleagues [21, 22]. This might result in competitive presenteeism [20] and attendance pressure [8] where employees need to demonstrate strength, determination and persistence, for example by working long hours and going to work while sick [19, 23]. A related question is whether sickness presenteeism is associated with other sickness behaviour for example self-diagnosing, self-treatment and hiding sickness [24–26]. Collegial support seems to have a positive effect on physician well-being [27]. In this study we tested whether organisational care for physician well-being might prevent physicians from working when ill [27].

Our study includes four countries with different social insurance systems (for example in sick pay and in any qualifying days before sick pay commencing). For example, Italy has three qualifying days followed by 50% compensation, whereas Norway has no qualifying days and 100% compensation. Sweden has one qualifying day and 80% compensation, and Iceland has no qualifying day and a flat-rated compensation of approximately € 7/day [28]. From these figures, it is interesting to see whether the prevalence of presenteeism will follow the pattern of welfare benefits. No previous studies have investigated sickness presenteeism in university hospitals or related it to other sickness behaviours. The aim of the study was to investigate whether role conflicts, competition within academic medicine, organisational care, and other sickness behaviour are associated with sickness presenteeism. Since four countries were included in the analyses, it was possible to compare organisational and societal factors.

Methods

Participants and procedure

The present study used baseline cross-sectional data from the HOUPE study (phase I). The HOUPE study (Health and Organisation among University hospital Physicians in Europe) is an on-going longitudinal research programme in European countries (phase I: Sweden, Norway, Iceland and Italy) about work-related health, organisational culture, career paths and working conditions. The project has been approved by the administrations of each hospital involved, in addition to the respective regional ethics board and data inspectorates in each country.

All physicians who were permanently employed and actively working at the time of data collection at the four university hospitals were invited to participate in the study. The survey was administered as a web survey in Iceland, Norway and Sweden with an additional paper service. In Italy there was only a paper survey for practical reasons. Data collection via the Internet was organised centrally for the three Nordic countries at the project website www.houpe.no, hosted by the Department of Research and Development at St Olav's University Hospital. The survey

was conducted in English, except for the Italian participants who received questionnaires in Italian. The Italian version was validated using back translation between Italian and English. Participation was voluntary and confidentiality was guaranteed. To increase response rates, four electronic reminders were sent out during the survey period. In Italy, participants received only one paper survey and reminders were given informally to the directors of different units.

Ethics approval: Sweden: Regional ethics board, ref.no. 04-913/2), Italy: The Ethics Board of Padua University. no.1039P), Iceland (14 September 2004, ID no.: 04-091-S1), Norway (28 September 2004, ref. no. 164-04), S.

Variables

Sickness presenteeism (the dependent variable) was measured by the question "Have you ever gone to work with an illness for which you would have recommended a patient to stay at home" (measured on a 5-point Likert-scale from 1 = "never or very seldom" to 5 = "often or always"). The question was included from the Physician Career path Questionnaire; PCPQ [29]. The number of published articles was used as a proxy for the competitive climate in university hospitals. Physicians estimated how many peer-reviewed scientific articles they had authored or co-authored in ranges (i.e. 0, 1–5, 6–15, 16–30, 31–50, 51–100 and >101). The midpoint of each range was taken as the number of published articles; for the minimum and maximum ranges, actual values were taken. We used two subscales from "The General Nordic Questionnaire for Psychological and Social Factors at Work" [30] to assess role conflicts and organisational care. Role conflict was measured with the mean score of three items ($\alpha = 0.74$, e.g. "Do you receive incompatible requests from two or more people?"). Organisational care was measured with the mean score of three items ($\alpha = 0.83$, e.g. "To what extent is the management of your organisation interested in the health and well-being of the personnel?") [30]. All QPS items were measured on a 5-point Likert-scale (1 = "very seldom or never" to 5 = "very often or always"). Sickness behaviour included two types of activities: self-diagnosis and self-treatment were assessed with one item: "Have you diagnosed and treated yourself for symptoms for which you would have referred a patient to a specialist?" (yes/no); and compensatory leave was measured with one question: "If you have to stay home due to an illness, do you explain your absence by taking holiday, compensatory or other leave?" (Likert scale: 1 = "very seldom or never" to 5 = "very often or always"). The questions were taken from the PCPQ [29].

Statistical analyses

Data analyses included comparisons between countries for included variables by chi-square tests and analysis of variance (ANOVAs). *Post-hoc* analyses were adjusted for multiple comparisons.

Overall correlations for the total sample and country-stratified hierarchical multiple linear regression were used to examine the associations between sickness presence and independent variables. All continuous variables were sufficiently normally distributed to warrant parametric tests,

and the regression models were implemented using only respondents with no missing data. The statistical software SPSS, version 19 was used.

Results

Our sample consisted of the 1,996 participants who responded to the question about sickness presenteeism and other relevant variables. The average response rate was 52.6%, varying from 59.8% (Sweden), 54.7% (Norway), 47.8% (Iceland) to 41.3% (Italy). Across the four hospitals, male physicians had a significantly lower participation rate (48.5%) than female physicians (58.5%, $\chi^2 = 10.45$, $p = .001$). The response rates were 57% for physicians aged 35–44 years and 47% both for physicians aged 45–54 years and physicians aged >55 years. There were more female physicians in Sweden (49.4%), than in other countries: Norway (38.4%), Iceland (31.%) and Italy 34.1% (χ^2 (3, $n = 2064$), = 44.0, $p < .001$). Also, the age differed between countries (F (3, 2058) = 23.14, $p < .001$) such that Italian physicians were oldest ($M = 49.5$, $SD = 8.1$) and Norwegian physicians were the youngest ($M = 43.8$, $SD = 10.0$), with Swedish ($M = 46.3$, $SD = 9.6$) and Icelandic ($M = 46.8$, $SD = 10.0$) physicians in between.

Table 1 shows that sickness presenteeism was higher in Italy than in other countries. For comparison with other studies, the prevalence of sickness presence was computed as those who indicated that they sometimes or often went to work while ill (Italy = 86%, Sweden = 70%, Norway = 76%, Iceland = 75%). Self-diagnosis and -treatment was measured on a dichotomous scale and therefore was not included in table 1. A Chi-square test showed that this behaviour was most common in Italy (66.4%), followed by Sweden (45.5%), Iceland (43.6%) and Norway (36.2%: = χ^2 . (3, $n = 1997$) = 75.2, $p < .001$). Iceland did not differ from Norway or Sweden. From table 1 it is notable that Italian physician reported more than two times as many articles published than physicians in the other countries. Also

role conflicts were reported more often in Italy. Organisational care was considered highest among Norwegian physicians, and lowest among Italian physicians. All these differences indicate a higher competitive climate in Italy as compared to other countries.

In table 2, the bivariate correlations between variables are presented for the total sample. There were correlations between sickness presenteeism and country, hence we computed four country-stratified hierarchical linear regressions (see table 3). Age did not correlate with the outcome variable and was excluded from the regressions. (Regression analyses were also calculated with age included, and beta-weights were similar.) In step 1, gender (i.e. being female) was a significant predictor, contributing to 2% of the variance in Sweden, but not contributing in other countries. In step 2, factors associated with academic medicine, for example experiencing role conflicts and publishing articles, were entered into the model and added variance as follows: Sweden = 6.1%, Norway = 2.2%, Iceland = 5.5% and Italy = 5.2%. In step 3 organisational care for physician well-being was found to reduce sickness presenteeism: Sweden = 1.2%, Norway, = 1.2%, Iceland = 2.3% and Italy = 1.2%. Finally in step 4, other sickness behaviour was entered and explained the most variance in sickness presenteeism: Sweden = 9.4%, Norway = 5.0%, Iceland = 8.8% and Italy = 8.5, such that taking compensatory leave, self-diagnosis and self-treatment was associated with higher prevalence of sickness presenteeism. In total the predictors accounted for 18.3% of the sickness presenteeism variance in Sweden, 7.1% in Norway, 14.5% in Iceland and 13.4% in Italy. Except gender, all the predictors were in expected directions. In Sweden, but not in other countries, being female was significantly associated with higher rates of sickness presenteeism.

Table 1: Description of demographic characteristics and included variables among university hospital physicians from Sweden, Norway, Iceland and Italy.

	Sweden n = 1,031		Norway n = 354		Iceland n = 242		Italy n = 369		p
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Sickness presenteeism	3.01 _a	1.19	3.01 _a	1.03	3.06 _a	1.11	3.35 _b	1.06	0.001
Published articles	19.8 _a	28.0	12.4 _b	23.4	18.8 _b	1.4	45.5 _c	35.9	0.001
Role conflict	2.86 _a	0.84	2.51 _b	0.75	2.22 _c	0.86	2.96 _d	0.86	0.001
Organisational care	2.44 _a	0.91	2.93 _b	0.83	2.46 _a	0.93	2.23 _c	0.91	0.001
Compensatory leave	1.81 _a	1.23	1.21 _b	0.58	1.31 _b	0.79	2.12 _c	1.40	0.001

Means with different subscripts differ significantly at $p < 0.05$. *Post-hoc* comparisons were Bonferroni adjusted.

Table 2: Correlations between variables, Pearson's P.

	1	2	3	4	5	6	7	8
1. Country								
2. Sex (ref Female)	-,135**							
3. Age	,096**	-,185**						
4. Published articles	,244**	-,248**	,518**					
5. Role conflict	-0.043	0.011	-0.001	,123**				
6. Organisational care	-,068**	-0.024	0.026	-0.017	-,326**			
7. Self-diagnosis and -treatment	,130**	0.027	,092**	,100**	,154**	-,115**		
8. Compensatory leave	0.037	0.005	-0.002	,088**	,159**	-,141**	,134**	
9. Sickness presenteeism	,105**	,082**	0.031	,098**	,214**	-,178**	,278**	,225**

** Correlation is significant at the 0.01 level (2-tailed). Figures in the headings correspond to the variables to the left (1 = country; 2 = sex, 3 = age, et cetera).

Discussion

The prevalence of sickness presenteeism differed across countries, with Italy (86%), showing a higher number than other countries (70%–75%). In previous studies, sickness presenteeism among physicians has been estimated to be 80%–90% [2–6]. The higher rates in Italy could be attributed both to the health care system and probably also to a more competitive climate, as indicated by the difference in social insurance and in publication rates.

We found many similarities between countries, suggesting that certain factors are general predictors of sickness presence (at least) among university physicians, for example, role conflict, self-treatment, reporting other causes for sickness absence and organisational care. A common task for university physicians is to switch between clinical duties, research and teaching, with a variety of obligations and responsibilities to many different people, and this might prevent them from reporting sickness. On the other hand, switching duties might also be positive. For example, writing articles is less harmful to others than taking care of patients, and it is easier to adjust pace in research activities. In this study we have not assessed the typical situations when physicians go to work while ill. However, this is something that can be addressed in future research. The strongest associations with sickness presenteeism were self-diagnosis, self-treatment and reporting other causes than sickness absence. These associations have not been studied before and they highlight the need to consider sickness presenteeism in the light of other sickness-related behaviour, and to consider diverse explanations for these behaviours; for example, low compensation, and qualifying days might prevent physicians from taking or reporting sick-leave. Other explanations suggest that both physicians and patients regard physician health as an indicator of physician competence [30]. In a competitive climate, where high work capacity is highly valued, these behaviours might be even

stronger, as also indicated by the significance of published articles in Sweden and Italy.

A positive finding was that organisational care for employee health and well-being reduced the frequency of sickness presenteeism in all countries. Previous research has shown that support from colleagues can increase well-being among physicians [27]. Here, results indicate that managers should address the issues with physician health, show consideration and highlight the negative effects of physicians' self-neglect of their own health, influencing the social norms in positive directions.

Limitations of the study

Four university hospitals were included in the study. The differences found between Italy and other countries could be attributed to differences in the health care systems, or to differences in these specific hospitals. One should be cautious in generalising the findings to national levels. On the other hand, the regressions showed similar results for included countries, which gives justification for generalising to other hospitals (at least to European governmental university hospitals). For example, role conflicts and other sickness behaviour are probably predictors for physicians outside the academic medicine, although future studies should test this explicitly. Also, the differences in sickness presenteeism aligned with the welfare system in different countries, such that Italy had the most qualifying days and also the highest sickness presenteeism. Norway had the most generous welfare system, with no qualifying days and 100% compensation; however there were no differences in presenteeism compared to Sweden and Iceland.

The outcome variable was measured as a general question about how often physicians go to work while feeling unwell. The lack of this information might be a weakness, and in future studies it would also be good to assess how often this has happened, for example during the latest 12-month

Table 3: Country-stratified hierarchical regression with sickness presenteeism as the dependent variable.

		Sweden		Norway		Iceland		Italy	
		β	95% confidence interval	β	95% confidence interval	β	95% confidence interval	β	95% confidence interval
Step 1	Sex (v1)	0.149	0.086–0.211	0.069	-0.039–0.180	0.028	-0.105–0.161	0.022	-0.082–0.126
Step 2	Sex (v1)	0.169	0.106–0.231	0.089	-0.25–0.204	0.031	-0.106–0.170	0.037	-0.067–0.140
	Published articles	0.073	0.010–0.137	0.053	-0.060–0.167	-0.023	-0.162–0.115	0.141	0.037–0.244
	Role conflict	0.230	0.169–0.290	0.135	0.028–0.243	0.234	0.110–0.372	0.186	-0.083–0.285
Step 3	Sex (v1)	0.168	0.106–0.230	0.092	-0.020–0.208	0.037	-0.099–0.175	0.032	-0.071–0.135
	Published articles	0.083	0.021–0.148	0.059	-0.054–0.172	-0.010	-0.148–0.128	0.154	-0.051–0.257
	Role conflict	0.190	0.125–0.254	0.104	-0.007–0.215	0.182	0.050–0.324	0.157	0.052–0.260
	Organisational care	-0.115	-0.180–(-0.051)	-0.115	-0.226–(-0.004)	-0.162	-0.299–0.028	-0.115	-0.220–(-0.010)
Step 4	Sex (v1)	0.144	0.085–0.203	0.092	-0.018–0.205	0.031	-0.101–0.163	0.045	-0.054–0.143
	Published articles	0.071	0.012–0.132	0.076	-0.035–0.187	-0.033	-0.166–0.098	0.152	0.53–0.251
	Role conflict	0.157	0.095–0.218	0.058	-0.053–0.169	0.137	0.008–0.273	0.125	0.024–0.224
	Organisational care	-0.072	-0.134–(-0.011)	-0.122	-0.230–(-0.013)	-0.139	-0.270–(-0.011)	-0.118	-0.218–(-0.017)
	Compensatory leave	0.187	0.129–0.245	0.168	0.060–0.269	0.226	0.101–0.348	0.153	0.055–0.249
	Self-diagnosis and -treatment	0.238	0.180–0.296	0.135	0.029–0.245	0.160	0.035–0.288	0.240	0.142–0.337

* p <0.05, **p <0.01, *** p <0.001; Adj. R2 total: Sweden = 0.183 (step 1 = 0.022, step 2 = 0.061, step 3 = 0.012, step 4 = 0.094); Norway = 0.071 (step 1 = 0.005, step 2 = 0.022, step 3 = 0.012, step 4 = 0.050); Iceland = 0.145 (step 1 = 0.001, step 2 = .055, Step 3 = 0.023, step 4 = 0.088); Italy = 0.134 (step 1 = 0, step 2 = 0.052, step 3 = 0.012, step 4 = 0.086).

period. However, a strength, as we see it, is that the question forced physicians to consider themselves as patients and relate to situations where they would have recommended patients to stay at home.

Conclusions

Working while ill might be a short-term solution for physicians in order to combine the triple duties as a clinician, teacher and researcher, as well as a motivation to hide weaknesses. Physicians seem to use many tools indicating a neglect of their own health. Therefore, organisations and management need to take action in reducing these maladaptive behaviours, for example by implementing policies on sickness presenteeism, regular health-screenings, and assignments of general practitioners (GPs) to physicians. The positive finding in this study is that organisational care might have positive effects, and that the physicians are present in the organisation and are thus reachable for interventions.

Key points

Sickness presenteeism is common among physicians and associated with societal costs through reduced productivity, increased medical errors, impairment in judgments, and individual costs for the physicians.

Physicians seem to neglect their own health, and sickness presenteeism is associated with other sickness behaviours such as self-diagnosing and self-treatment.

A competitive work environment such as the field of academic medicine might endorse sickness presenteeism. In Sweden and Italy, higher rates of sickness presenteeism were related to research involvement.

Physician health is an indirect quality indicator of public health. Organisational care and policies on physician well-being might reduce sickness presenteeism.

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