

## Confidentiality and Physicians' Health. A Cross-sectional Study of University Hospital Physicians in Four European Cities (the HOUPE-study)

Lise Tevik LØVSETH<sup>1</sup>, Olaf Gjerløy AASLAND<sup>2</sup>, Ann FRIDNER<sup>3</sup>, Lilja Sigrun JÓNSDÓTTIR<sup>4</sup>, Massimo MARINI<sup>5</sup> and Olav Morten LINAKER<sup>1</sup>

<sup>1</sup>Department of Research and Development, Division of Psychiatry (AFFU), St Olavs University Hospital and Department of Neuroscience, Faculty of Medicine, Norwegian University of Science and Technology, <sup>2</sup>Research Institute of the Norwegian Medical Association and Department of Health Management and Health Economics, Institute of Health and Society, University of Oslo, Norway, <sup>3</sup>Department of Psychology, Stockholm University and Centre for Gender Medicine, Karolinska Institute Stockholm, Sweden, <sup>4</sup>Directorate of Health, Iceland and <sup>5</sup>Department of Neurological and Psychiatric Science, Clinic of Psychiatry, University of Padova and Department of Psychiatry Azienda Ospedaliera di Padova, Italy

**Abstract: Confidentiality and Physicians' Health. A Cross-sectional Study of University Hospital Physicians in Four European Cities (the HOUPE-study): Lise Tevik Løvseth, et al. Department of Research and Development, Division of Psychiatry (AFFU), St Olavs University Hospital, Norway—**

**Objective:** To investigate how the subjective burden of confidentiality can act as a stressor that affects physicians' psychological health and wellbeing. **Method:** Cross-sectional survey data from a sample of university hospital physicians (N=1,956) in four European countries (Sweden, Norway, Iceland and Italy) who participated in the HOUPE (Health and Organization among University hospital Physicians in Europe) study was analysed. **Results:** About 25% of the participants reported that confidentiality impedes emotional support to a considerable degree. An index of confidentiality as a barrier to seeking support (ICBS) had a negative effect on physicians' health and wellbeing. The effect of ICBS was confirmed and slightly increased when controlled for variables known to buffer the adverse mental and physical effects of

stress. Though the physicians in Iceland and in Norway found confidentiality the most challenging, it was the physicians in Italy and Sweden who showed a significant effect of ICBS on their health and wellbeing. **Conclusions:** Whether confidentiality is a stressor in its own right or an amplifier of stressful situations in medical practice should be further investigated to gain a better understanding of the effect of confidentiality on physicians' coping, stress and health. In addition, there is a need to investigate how physicians can balance coping with the inevitable emotional demands of medical practice and maintaining the ethics of confidentiality in a way that protects both patients' privacy rights and physicians' health and wellbeing. (*J Occup Health 2010; 52: 263–271*)

**Key words:** Doctor, Health, Professional secrecy, Social support, Stress

Though physicians are educated and trained to be capable and mentally prepared to handle people's misfortune, it is inevitable that some of them are affected by their patients. Emotionally difficult interactions with patients and their families can cause distress in physicians<sup>1–3</sup>, and support from colleagues or spouse is an important means for coping with such stressors<sup>4, 5</sup>. However, the content of such situations is often made up of privileged information; physicians are unlikely to share their experiences uncritically even though they may perceive the emotional support as beneficial for their wellbeing.

Confidentiality refers to the physician's duty of

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Correspondence to: L. T. Løvseth, Department of Research and Development, Division of Psychiatry (AFFU), St Olavs University Hospital, PO Box 3008 Lade, NO-7041 Trondheim, Norway (e-mail: lise.lovseth@ntnu.no)

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confidentiality about patients and patient-related incidents. Through recasting the Hippocratic Oath in modern languages the Oath has come to be viewed by Western physicians as a source document of the essence of ethics for physicians and continues to have considerable influence on professional behaviour in clinical practice<sup>6</sup>. The Hippocratic principle of confidentiality of The World Medical Association (WMA) reads: *What I may see or hear in the course of the treatment or even outside of the treatment in regard to life of men, which on no account one must spread abroad, I will keep to myself holding such things shameful to be spoken about* (www.wma.com). National medical associations' codes of ethics are based on the WMA formulation and constitute a framework for professional conduct that exists regardless of national borders and medical specialities. As one of the most fundamental norms of ethical behaviour in Western medical practice, confidentiality represents a fairly uniform premise for physicians' communication both in- and outside the clinical setting<sup>6, 7</sup>.

In their review of physician wellness, Wallace, Lemaire and Ghali<sup>8</sup> proposed that the interaction of emotional demands, confidentiality issues and coping can lead to adverse health outcomes for physicians. However, much of the literature on confidentiality and physician coping is based on opinion rather than empirical data. It has been argued that confidentiality about many stressors (patients and patient-related incidents) inherent in the physician's role inhibits the sharing of problems and solutions<sup>9</sup>. Arnetz<sup>10</sup> has claimed that confidentiality is an important barrier in studying successful coping because physicians might be unwilling to both recognize and share emotional distress from their professional experiences. In addition to protecting privileged information, reasons for this can be several. One might be the concern about how personal details about themselves will be handled<sup>11</sup>, particularly psychological conditions<sup>12</sup>. Another might be the need to maintain or protect their professional behaviour and integrity<sup>7, 13, 14</sup>, in which upholding an image of both medical and emotional capability combined with secrecy is important. The image can be incompatible with addressing emotional distress from clinical work. Consequently, physicians might find their own need to cope with distress in conflict with other important considerations such as confidentiality. This may impede talking about work-related personal experiences and emotional responses and make it difficult for physicians to utilize and fully benefit from different support systems at work.

Irrespective of whether it is perceived as a personal, professional or contextual barrier to support, recognition of the potentially harmful effects of confidentiality on physicians' health and wellbeing is important. Stressors are not just exposure to distressing events, but also factors

that threaten peoples' resources<sup>15</sup>. As occupational stress occurs when there is a mismatch between the level of demands and (lack of) available resources<sup>15, 16</sup> it is reasonable to expect that confidentiality as a barrier to support can have a negative effect on physicians' psychological health and wellbeing. The HOUPE study (Health and Organization among University Hospital Physicians) examines the work and organization of physicians in four European university hospitals in relation to indicators of health, including psychological health and wellbeing. The present study is a part of this study that investigated four outcomes: the prevalence of confidentiality as a barrier to support seeking (CBS), the effect of CBS on physicians' psychological health and wellbeing, variation in these relationships between groups of physicians, and possible mediation by other resources of coping, such as support, civil status, mentorship and communication in their department.

### Subjects and Methods

The study used baseline cross-sectional data from physicians working in four European countries (Sweden, Norway, Iceland and Italy) who participated in Phase I of the HOUPE study. This is part of an ongoing longitudinal research program concerning work-related health, organizational culture, career paths and working conditions of university hospital physicians. Data was collected from Karolinska University Hospital, Stockholm (Sweden), St. Olavs University Hospital, Trondheim (Norway), Landspítali, Reykjavik (Iceland) and Azienda University Hospital, Padova (Italy). All eligible physicians (permanently employed and actively working at the time of the data collection) in these four public university hospitals received a written invitation to participate in the study (Karolinska 1,827, St Olavs 689, Landspítali 531, Azienda 900). The invitation also included information on the purpose of the study and subsequent dissemination of the results. Full-time and part-time physicians in clinical positions were included. Respondents received no payment or other incentives to participate. The data collection took place during the period December 2004 to March 2006. Electronic data collection was organized for the three Nordic countries at www.houpe.no, hosted by St Olavs University Hospital, Norway. The participants received a letter containing log-on information for accessing a web-based questionnaire which asked them to enter their responses anonymously. A paper version of the questionnaire was sent to all participants in Azienda, Padova, as well as to those participants in the Nordic countries who were reluctant to respond electronically. Language equivalence was considered best achieved using English in the joint questionnaire of the 3 Nordic countries (Sweden, Norway and Iceland). Since university hospital physicians in the Nordic countries are nearly fluent in English, their

questionnaires were all in English. For the Italian participants, the survey was prepared in Italian using the translation-back translation method<sup>17)</sup>. Reminders were sent by electronic and/or paper mail. The main questionnaire comprised 103 items. Our sample consists of the 1,956 respondents who responded to questions on confidentiality and other relevant variables.

#### Measures and data analysis

*Confidentiality as a barrier to support* (CBS) was measured by the question: Think about your need to manage emotional demanding circumstances at work. Do you perceive confidentiality as an obstacle to talk about your thoughts and feelings with. . . , followed by a list of five peer categories 1) immediate superior, 2) physician colleague, 3) other health personnel, 4) partner/spouse and 5) other family and close friends? (SE  $\alpha=0.70$ , NO  $\alpha=0.68$ , IS  $\alpha=0.62$ , IT  $\alpha=0.74$ ). For each of these the response was given on a five point scale from 0 (never) to 4 (very often/always). The majority of those who responded to 4 of the 5 items were participants without a partner. Consequently, the composition of ICBS included those who had answered at least 4 items. The missing value was replaced with the mean score of valid responses. Next, all scores of the five items of significant others were added to an unweighted index of confidentiality (ICBS) with a range from 0 to 20. A high score on ICBS indicates that the practice of confidentiality is perceived as a considerable barrier to support seeking. ICBS showed a bimodal distribution with a relatively large number of participants responding with "never" on all categories, particularly from Karolinska ( $n=131$ ) and Azienda ( $n=62$ ). We converted this scale into three levels: confidentiality no barrier (ICBS-no=0), confidentiality some barrier (ICBS-mod=1 through 9) and confidentiality a considerable barrier (ICBS-high=10 through 20).

Questions about *communication atmosphere* in the departments and *mentorship* were taken from the General Nordic Questionnaire for Psychological and Social factors at work (QPSNordic)<sup>18, 19)</sup>. These items were measured on a 5-point scale (1=very seldom or never to 5=very often or always). We also included a question on *civil status* from the Physician Career Path Questionnaire<sup>20)</sup> which was dichotomized into 1=*in a relationship* (partner, married, co-habiting) or 0=*not in a relationship* (widow/widower, separated, divorced, single).

Our question on *emotional support*<sup>21)</sup> was, like that for CBS, related to the five peer categories: immediate superior, colleague, partner/spouse, other family members and close friends (SE  $\alpha=0.54$ , NO  $\alpha=0.61$ , IS  $\alpha=0.64$ , IT  $\alpha=0.56$ ). Responses were given on a five point frequency scale from 1 (*never*) to 5 (*very often/always*).

The dependent variable used in this study was the 12 item General Health Questionnaire (GHQ-12), which is

a validated self-report questionnaire measuring current psychological distress<sup>22-24)</sup> (SE  $\alpha=0.90$ , NO  $\alpha=0.87$ , IS  $\alpha=0.85$ , IT  $\alpha=0.86$ ). The respondents were asked whether they had experienced a particular state/symptom in the past three weeks, and were to give their responses on a scale from 1 (less than usual) to 4 (much more than usual). In order to obtain normal distributed scores more suitable for parametric multivariate analysis, we used the composite scoring method (CGHQ-12)<sup>25)</sup>.

Data analysis was conducted in four stages. In the first stage, we examined group differences in the scale variables according to age, gender and the four hospitals by calculating 95% confidence intervals (CI) for means or proportions for continuous and categorical variables. The representativeness of gender and age of the separate hospital samples was tested with Chi-square tests of frequencies. In the second stage, group differences based on hospital, age and gender of the tripartite version of ICBS were tested by Chi-square tests. In the third stage, multiple linear regression analyses with CGHQ-12 as the dependent variable were conducted to explore whether the relationship between ICBS and CGHQ-12 varied according to hospital and gender. The scale variables were sufficiently normally distributed for use in ordinary linear regressions. Variables were not standardized prior to analyses and missing values were managed by pairwise deletion. In the last stage, age, gender, hospital, civil status in addition to variables of emotional support, mentorship and interpersonal communication were entered into a stepwise multiple regression analysis to explore how they might influence the relationship between ICBS and CGHQ-12. The statistical software SPSS 15 was used.

## Results

### Response rates

Across the four hospitals, male physicians had a significantly lower participation rate (42.7%) than female physicians (58.4%,  $X^2=10.45$ ,  $p=0.001$ ). Because medical residents are employed by the university and not by Azienda, the majority (99%) of the Italian respondents were over the age of 35. The response rate for physicians under 35 yr old (Azienda not included in this analysis) was 70.1%. The response rates were 54% for physicians aged 35–44 yr, 45% for physicians aged 45–54 yr and 44% for those aged >55 yr. Table 1 shows a comparison of age and hospital between respondents (Participants=PA) and the total sample of hospital physicians (Population=PO).

Comparisons by age and hospital between those who were included in the present study by their responses on ICBS ( $n=1,956$ ) and those who were excluded due to incomplete responses ( $n=122$ ) showed no significant differences on the dependent or independent variables included in the present study. A missing values analysis showed that none of the items on the ICBS had higher

**Table 1.** Representativeness of participants (PA) with the population\* (PO) based on age and hospital

		Under 35 yr			35–44 yr		45–54 yr		55 yr +		p-value
		N	%	95% CI	%	95% CI	%	95% CI	%	95% CI	
Karolinska	PA	1,016	14.7	12.6–16.8	29.8	27.0–32.6	32.5	29.6–35.4	23.0	20.4–25.6	0.028
	PO	1,827	11.4	9.9–12.8	29.8	27.7–31.9	36.7	34.5–38.9	22.1	20.2–24.0	
St Olavs	PA	346	19.9	15.7–24.2	35.3	30.2–40.3	26.6	22.0–31.2	18.2	14.1–22.3	0.345
	PO	689	15.7	13.0–18.4	35.3	31.7–38.8	29.2	25.8–32.6	19.8	16.9–22.9	
Landspitali	PA	235	15.7	11.1–20.4	25.1	19.6–30.7	35.3	29.2–41.4	23.9	13.4–29.3	0.048
	PO	531	13.9	11.0–16.9	19.6	16.2–23.0	33.0	29.0–37.0	33.5	29.5–37.5	
Azienda	PA	340			26.8	22.1–31.5	43.8	38.6–49.1	29.4	24.6–34.3	0.022
	PO	889			20.2	17.6–22.9	44.0	40.7–47.2	35.8	32.6–38.9	
Total	PA	1,937	13.7	12.1–15.2	29.5	27.5–31.5	33.6	31.5–35.7	23.6	21.4–25.1	<0.001
	PO	3,936	10.1	9.2–11.1	27.1	25.7–28.5	35.5	34.9–38.1	26.3	24.9–27.6	

2 × 4 Chi-square test of frequencies. Population=the total sample of hospital physicians in each country. CI: Confidence interval.

**Table 2.** Demographic characteristics and scale variables based on hospital

	Valid cases N	Karolinska (n=1,018)		St Olavs (n=346)		Landspitali (n=235)		Azienda (n=357)	
		%	95% CI	%	95% CI	%	95% CI	%	95% CI
Gender: Females	1,950	49.2	46.1–52.3	38.6	33.4–43.7	32.6	26.6–38.6	34.7	29.8–39.7
Age (years)	1,956								
<35		14.7	12.5–16.8	19.9	15.7–24.2	15.7	11.1–20.4	3.1	1.3–5.0
35–44		29.8	27.0–32.6	35.3	30.2–40.3	25.2	19.6–30.7	25.9	21.3–30.5
45–54		32.5	29.6–35.4	26.6	21.9–31.2	35.3	29.2–41.4	42.5	37.3–47.6
55+		23.0	20.4–25.6	18.2	14.1–22.3	23.8	18.4–29.3	28.5	23.8–33.2
In a relationship	1,956	86.1	83.9–88.2	86.1	82.5–89.8	88.1	83.9–92.2	81.8	77.8–85.8
Emotional support from . . .		Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI
Immediate superior	1,933	2.52	2.44–2.60	2.84	2.71–2.97	2.96	2.80–3.13	2.25	2.11–2.38
Physician colleague	1,949	3.56	3.49–3.63	3.50	3.39–3.61	3.59	3.46–3.72	3.30	3.17–3.42
Other health personnel	1,935	2.41	2.34–2.48	2.31	2.19–2.42	2.54	2.39–2.68	2.26	2.29–2.55
Partner/spouse	1,800	4.04	3.96–4.12	3.65	3.51–3.79	3.63	3.45–3.81	3.81	3.67–3.95
Family and close friends	1,906	3.21	3.13–3.29	2.79	2.65–2.92	2.31	2.12–2.49	3.19	3.04–3.34
Communication in the department	1,947	2.80	2.74–2.87	3.28	3.18–3.38	3.17	3.02–3.32	2.87	2.75–3.00
Mentorship	1,947	2.47	2.40–2.53	2.79	2.68–2.89	2.34	2.19–2.48	1.73	1.63–1.84

CI: Confidence interval.

percentages of no response.

Differences in the characteristics of the participants for each hospital are presented in Table 2. Of the 1,956 participants 43% (833/1,956) were women, 85.5% (1,673/1,956) were in a relationship, and men were more likely to be married or cohabitant than women ( $X^2=56.08$ ,  $p<0.001$ ). There were no gender differences in the variables emotional support, mentorship or department

communication between male and female physicians.

#### Confidentiality as a barrier to support (ICBS)

ICBS-no was recorded significantly more often by physicians at Karolinska (12.9%, 95% CI: 10.8 to 14.9) and Azienda (17.4%, 95% CI 13.4 to 21.3) than by physicians from St Olavs (6.1%, 95% CI 3.5 to 8.6) and Landspitali (5.1%, 95% CI 2.3 to 7.9). All between-group

Chi-square tests showed significant differences ( $p < 0.001$ ). Approximately 65% of the participants reported that confidentiality was a moderate barrier to support seeking (ICBS-mod). There were no significant differences between the four hospitals in the frequency of ICBmod scores. More physicians at Landspitali (31.1%, 95% CI 25.1 to 37.0) than Azienda (20.4%, 95% CI 16.2 to 24.7) had ICBS scores in the ICBS-high range ( $X^2 = 8.59$ ,  $p < 0.003$ ). The proportion of those who reported ICBS-high was 25.7% (95% CI 21.1 to 30.4) at St Olavs and 23.3% (95% CI 20.7 to 25.9) at Karolinska. There were no significant age or gender differences in the tripartite division of ICBS.

### *Confidentiality and health*

The relationship between confidentiality and health was investigated with multiple linear regression analyses with CGHQ-12 as the dependent variable. Separate regressions analyses based on hospital and gender showed that ICBS had a significant effect on physicians health and wellbeing (CGHQ-12) for physicians at Karolinska (ICBS-mod:  $\beta = 0.094$ ,  $t = 2.011$ ,  $p = 0.045$ /ICBS-high and CGHQ-12:  $\beta = 0.141$ ,  $t = 3.022$ ,  $p = 0.003$ ) and at Azienda (ICBS-mod:  $\beta = 0.140$ ,  $t = 1.992$ ,  $p = 0.047$ /ICBS-high:  $\beta = 0.163$ ,  $t = 2.322$ ,  $p = 0.021$ ). In addition, ICBS-high had a significant effect on health and wellbeing for men ( $\beta = 0.114$ ,  $t = 2.494$ ,  $p = 0.013$ ), but not for women.

The effect of confidentiality and a number of other variables on health was investigated with stepwise multiple linear regression analyses with CGHQ-12 as the dependent variable (Table 3). We first looked at the sole effect of the three-level ICBS on GHQ-12 (block 1), and then controlled for hospital (block 2). Gender and age followed in blocks 3 and 4, and finally emotional support, civil status, mentorship and communication atmosphere. From block 2 through block 5 there was a significant effect on GHQ-12 of the medium and even more of the high level of ICBS compared to the zero level, suggesting that the effect is independent of the other variables.

### **Discussion**

The results of the present study indicate that the professional ethics of confidentiality as a barrier to seeking emotional support may have a negative effect on the psychological health and wellbeing of physicians working in university hospitals. The effect was confirmed and increased when controlling for variables believed to counteract the adverse effects of stress. Confidentiality was more likely to have a significant effect on the health and wellbeing among physicians at Azienda (IT) and Karolinska (SE) than their colleagues at St Olavs (NO) and Landspitali (IS).

Confidentiality is a necessary and valuable aspect of medical practice. It is a part of the physicians' professional role that they are trained to abide by when

faced with unique and sensitive information. Accordingly, it is more common in the literature to identify confidentiality in challenging situations of communication than to recognize it as a drawback or unwanted consequence of ordinary clinical work. The relative lack of literature on the negative effects of confidentiality suggests that it is regarded as more beneficial than disadvantageous.

Between 20% and 30% of the respondents in our study reported that confidentiality impedes emotional support to a considerable degree. Results from other studies show that experiences with ethical difficulties or moral distress routinely arise in the medical setting<sup>26-28</sup>. Results from a representative study of Norwegian physicians revealed that over 40% reported frequent occurrence of ethical problems at work<sup>29</sup>. The same frequency was reported among hospital physicians in a representative study from Finland<sup>30</sup>. The ethics of confidentiality depends very much on personal responsibility<sup>31</sup> and is commonly regarded as a personal duty. As confidentiality represents the core of the doctor-patient relationship, the high prevalence of physicians who find it challenging should not be surprising, given the reported frequency of ethical problems in other studies.

We find it noteworthy that some physicians did not experience confidentiality as a barrier to seeking support. A higher prevalence of such responses from physicians at Azienda (17%) and Karolinska (13%) suggest that the subjective burden of confidentiality may be shaped and informed by norms and expectations of how to practice confidentiality<sup>32</sup>, respond to work stress<sup>33</sup> and use emotional support<sup>34</sup> within professional groups and organizations and, perhaps, in the general cultural setting. This means that although physicians report confidentiality as not being a barrier to emotional support (ICBS-no=0), these responses may represent different types of attitudes. They may indicate that this type of situation is not acknowledged among some groups of physicians, or that emotional support is not a preferred coping response to emotional upheaval<sup>35</sup>. Furthermore, as confidentiality is associated with social norms of behaviour<sup>31</sup>, participants may have chosen the more socially acceptable responses<sup>36</sup>. If so, it is possible that the results of the present study underestimate the amount of strain experienced by physicians. Another explanation may be that a necessary sharing of emotional experiences takes place<sup>37</sup> and that the issue of confidentiality does not constitute a barrier here. Contrarily, if sharing emotional experiences is not customary for other reasons<sup>38, 39</sup>, the issue of confidentiality loses its relevance.

The main results of the present study support our initial hypothesis that in situations where confidentiality is perceived to interfere with emotional support, it affects physicians' psychological health and wellbeing. Accordingly, as a barrier to the provision of necessary



resources such as emotional support, confidentiality may be perceived as a stressor for physicians. The strengthening of ICBS's effect on CGHQ-12 when we added other factors of support and communication our model supports this notion. In addition to high scores on ICBS, not being in a relationship, lack of support from superiors, no mentoring within the organization and lack of communication in the department were all negatively associated with health and wellbeing among physicians. These resources have been shown to be important in coping with job demands and access to these resources increases wellbeing in organizations<sup>40, 41</sup>.

Even though physicians at St Olavs and Landspítali reported confidentiality a barrier to emotional support, the relationship between ICBS and health was not significant for these physicians. One explanation may be that the effect of ICBS on health and wellbeing might be stronger for physicians who are already exposed to severe occupational stressors. Our study focused on a selected group of physicians working in academic medicine. The nature of the work in university hospitals is, in itself, stressful. Medical academics are trained both as medical practitioners and scientists. They are expected to conduct original scientific research, teach medical students and graduates and provide patient care. The work of these physicians is highly paced, has long hours, less vacation and high levels of commitment to a dual clinical and academic career path<sup>41</sup>. The psychosocial work environment of the sample in the present study is characterised by risk factors that are associated with a relatively high level of harassment compared with other studies of physicians and studies of the population in general<sup>42</sup>. In particular, the physicians at Karolinska and Azienda appear to be pressured to succeed in their field of medicine<sup>41</sup>. In contrast to its Nordic counterparts; Karolinska Hospital has a manifest strategy directed towards being an elite institution in Europe. St Olavs and Landspítali are more focused on providing medical care and teaching medical students, and place less emphasis on conducting original research compared with Karolinska and Azienda. Though physicians in some clinics at St Olavs and Landspítali may experience the negative side effects of competition and obligation to succeed, they are not equally exposed to the high work pace and level of conflict and harassment as their counterparts at Karolinska and Azienda<sup>42</sup>; confidentiality as a barrier to coping resources might not have the same effect on their health and wellbeing.

#### *Strengths and limitations*

The strength of this study is that it provides cross-sectional data from four countries. Transnational group comparisons of the physicians' health and work conditions are often sought in research. These types of comparisons increase validity and reliability of the results. However,

the study is based on cross-sectional data. Thus, one must be cautious in making inferences about observed associations and drawing conclusions on causality.

The response rate of the HOUPE study makes it difficult to draw conclusions about university hospital physicians in general. In particular, the overall response rates of the HOUPE study from Landspítali and Azienda were low. We did not find differences between those who were included in the present study by their responses on ICBS and those who were excluded due to incomplete responses. One reason for missing responses on confidentiality questions can be that the concept was imprecise. However, as a significant premise of professional behaviour for participants in this study we believe that they recognize the term also in the context of coping and social support. In addition, one section heading in the questionnaire was "The ethics of confidentiality and possibility to talk", and all items were asked with reference to confidentiality. As such we perceive that unfamiliarity of "confidentiality" in this context was minimal. However, it is not unlikely that physicians could perceive the ethics of confidentiality as of no relevance in the context of social support and coping. The latter is emphasized in the discussion. Furthermore, cross cultural and individual differences are found to affect the manner of response to self-report items<sup>43</sup> and physician's non-response to surveys<sup>44</sup>. As the central aim of the HOUPE study is to investigate how organizational structure and work arrangements influence health, sickness absence and turnover intentions among hospital physicians, the main survey did not include measurement of personality traits.

Apart from age, gender and hospital we have no information on the physicians who chose not to participate in the HOUPE study. The literature indicates that one of the most important reasons for non-response by physicians is lack of time<sup>45</sup>, which we assume to be one of the main reasons for non-participation in the HOUPE study<sup>41</sup>. The goal was that the participants would be able to complete the questionnaire within 20 min. In addition, mixed-mode surveys with both postal and web-based survey, adopted by the HOUPE study, have been shown to increase the response rate<sup>46</sup>. Despite these efforts there were missing data. Surveys of physicians tend to have lower response rates than other health care personnel<sup>46, 47</sup>. The trend has seen a significant decrease in response rate over the last decade. Reviews report an average response rate of 57.5%<sup>47</sup> by physicians which is similar to the average response rate in the HOUPE study. Scandinavian studies tend to have a higher response rate than studies from other European countries<sup>48</sup>; the same pattern is found in the HOUPE study. Studies on employees in human services in Italy have similar response rates<sup>49, 50</sup>. As this was the first comprehensive study of all doctors in Iceland, the physicians at

Landspitali received an extended questionnaire with additional items on health and lifestyle. The length of the questionnaire and the novelty of the topic might explain the lower than 50% response rate at Landspitali.

Medical speciality and position are assumed to be important factors that can influence our topic<sup>26, 28, 51</sup>. However, classification and the number of medical specialities varied widely between the countries. In addition, differences in co-localization of medical specialties made such comparisons difficult in this phase of the HOUPE study. Although physicians work in academic medicine with similar populations, there were marked differences in hospital organization, medical education and work conditions between the physicians in these four hospitals. For instance, at the time of the data collection St Olavs was divided into 18 departments, while Landspitali had 12, Azienda 11 and Karolinska 23. In order to secure the anonymity of the respondents, Data Inspectorates required that information on department and medical speciality was optional.

### Conclusions

We conclude that confidentiality has a significant effect on the psychological health and wellbeing of physicians. This effect is most prominent in physicians who find confidentiality to be a considerable barrier to emotional support. The relationship between the subjective burden of confidentiality and health might be subject to variation according to professional, organizational and general cultural factors. Whether confidentiality is a stressor in its own right, or interacts with other stressors in medical practice must be further investigated for a comprehensive understanding of this issue. Our results indicate that there is a need to investigate how physicians can balance coping with the inevitable emotional demands of medical practice and maintaining the ethics of confidentiality in a way that protects both patients' privacy rights and physicians' health and wellbeing.

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### References

- 1) Redinbaugh EM, Sullivan AM, Block SD, et al. Doctors' emotional reactions to recent death of a patient: cross sectional study of hospital doctors. *BMJ* 2003; 327: 185.
- 2) Sabin-Farrell R, Turpin G. Vicarious traumatization: implications for the mental health of health workers? *Clin Psychol Rev* 2003; 23: 449–80.
- 3) Najjar N, Davis LW, Beck-Coon K, Doebbeling CC. Compassion fatigue a review of the research to date and relevance to cancer-care providers. *J Health Psychol* 2009; 14: 267–77.
- 4) Thoits PA. Social support as coping assistance. *J Consult Clin Psychol* 1986; 54: 416–23.
- 5) Wallace JE, Lemaire J. On physician well being—you'll get by with a little help from your friends. *Soc Sci Med* 2007; 64: 2565–77.
- 6) Veatch RM. Cross-cultural perspectives in medical ethics. 2nd ed. Boston: Jones and Bartlett; 2000.
- 7) Engelskjön N. The tradition of the physician's professional ethics. From Hippocrates to the ethical rules of physicians of the Norwegian medical association. In: Olsen BO, Larsen Ø, editors. *The Shaping of a profession. Physicians in Norway, past and present*. Canton (Mass): Science History Publications; 1996. p. 507–18.
- 8) Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet* 2009; 374: 1714–21.
- 9) McCue JD, Sachs CL. A stress management workshop improves residents coping skills. *Arch Intern Med* 1991; 151: 2273–7.
- 10) Arnetz BB. Psychosocial challenges facing physicians of today. *Soc Sci Med* 2001; 52: 203–13.
- 11) Kay M, Mitchell G, Clavarino A, Doust J. Doctors as patients: a systematic review of doctors' health access and the barriers they experience. *Bri J Gen Pract* 2008; 58: 501–8.
- 12) Davidson SK, Schattner PL. Doctors' health-seeking behaviour: a questionnaire survey. *Med J Aust* 2003; 179: 302–5.
- 13) Wiley C. Ethical standards for human resource management professionals: a comparative analysis of five major codes. *J Bus Ethics* 2000; 25: 93–114.
- 14) Øyen E. Trend report 1. The social functions of confidentiality. *Current Sociol* 1982; 30: 1–37.
- 15) Edwards JR, Cooper CL. The Person-environment fit approach to stress—recurring problems and some suggested solutions. *J Organ Behav* 1990; 11: 293–307.
- 16) Lazarus RS, Folkman S. *Stress, appraisal, and coping*. New York: Springer Publ. Co; 1984.
- 17) Brislin RW, Lonner WJ, Thorndike RM. *Cross-cultural research methods*. New York: John Wiley; 1973.
- 18) Dallner M. *Validation of the General Nordic Questionnaire (QPSNordic) for psychological and social factors at work*. Copenhagen: Nordic Council of Ministers; 2000.
- 19) Lindström K. *User's guide for the QPSNordic. General Nordic questionnaire for psychological and social factors at work*. Copenhagen: Nordic Council of Ministers; 2000.

- 20) Fridner A. Career paths in academic medicine. Uppsala (Sweden): Cata Universitatis Upsaliensis; 2004.
- 21) Hellesøy OH. Work environment Staffjord Field. Work environment, health and safety on a North Sea oil platform. Bergen (Norway): Universitetsforlaget; 1985.
- 22) Goldberg D, Williams P. A user's guide to the general health questionnaire. London: Nfer-Nelson; 1988.
- 23) Koeter MWJ. Validity of the GHQ and SCL anxiety and depression scales. A comparative study. *J Affect Disorders* 1992; 24: 271–9.
- 24) Politi PL, Piccinelli M, Wilkinson G. Reliability. Validity and factor structure of the 12-item general health questionnaire among young males in Italy. *Acta Psychiatr Scand* 1994; 90: 432–7.
- 25) Whaley CJ, Morrison DL, Payne RL, Fritschi L, Wall TD. Chronicity of psychological strain in occupational settings and the accuracy of the general health questionnaire. *J Occup Health Psych* 2005; 10: 310–9.
- 26) Duval G, Clarridge B, Gensler G, Danis M. A national survey of US Internists' experiences with ethical dilemmas and ethics consultation. *J Gen Intern Med* 2004; 19: 251–8.
- 27) Källemark S, Höglund AT, Hansson MG, Westerholm P, Arnetz B. Living with conflicts-ethical dilemmas and moral distress in the health care system. *Soc Sci Med* 2004; 58: 1075–84.
- 28) Saarni SI, Halila R, Palmu P, Vanska J. Ethically problematic treatment decisions in different medical specialties. *J Med Ethics* 2008; 34: 262–7.
- 29) Førde R, Aasland OG. Moral distress among Norwegian doctors. *J Med Ethics* 2008; 34: 521–5.
- 30) Saarni SI, Parmanne P, Halila R. Ethically problematic treatment decisions: a physician survey. *Bioethics* 2008; 22: 121–9.
- 31) Veatch RM. Medical ethics. 2nd ed. Boston: Jones and Bartlett; 1997.
- 32) Lako CJ, Lindenthal JJ. The management of confidentiality in general medical-practice—a comparative-study in the USA and the Netherlands. *Soc Sci Med* 1991; 32: 153–7.
- 33) Caplan RD. Job demands and worker health. Main effects and occupational differences. Ann Arbor, Mich: Survey Research Center, Institute for Social Research, The University of Michigan; 1980.
- 34) Kim HS, Sherman DK, Taylor SE. Culture and social support. *Am Psychol* 2008; 63: 518–26.
- 35) Sörllie V, Førde R, Lindseth A, Norberg A. Male physicians' narratives about being in ethically difficult care situations in paediatrics. *Soc Sci Med* 2001; 53: 657–67.
- 36) Marlowe D, Crowne DP. Social desirability and response to perceived situational demands. *J Consul Psychol* 1961; 25: 109–15.
- 37) Akre V, Falkum E, Hoftvedt BO, Aasland OG. The communication atmosphere between physician colleagues: competitive perfectionism or supportive dialogue? A Norwegian study. *Soc Sci Med* 1997; 44: 519–26.
- 38) Christensen JF, Levinson W, Dunn PM. The heart of darkness—the impact of perceived mistakes on physicians. *J Gen Intern Med* 1992; 7: 424–31.
- 39) Finkenauer C, Rimé B. Socially shared emotional experiences vs. emotional experiences kept secret: differential characteristics and consequences. *J Soc Clin Psychol* 2004; 17: 295–318.
- 40) Passmore J, Anagnos J. Organizational coaching and mentoring. In: Cooper CL, Cartwright S, editors. *The Oxford handbook of organizational well-being*. Oxford: Oxford University Press; 2009: 497–519.
- 41) Fridner A, Belkic K, Marini M, Minucci D, Pavan L, Schenck-Gustafsson K. Survey on recent suicidal ideation among female university hospital physicians in Sweden and Italy (the HOUPE study): cross-sectional associations with work stressors. *Gender Medicine* 2009; 6: 314–28.
- 42) Andersen GR, Aasland OG, Fridner A, Løvseth L.T. Harassment among university hospital physicians in four European cities. Results from a cross-sectional study in Norway, Sweden, Iceland and Italy (the HOUPE study). *Work* 2010; in press.
- 43) Austin EJ, Deary IJ, Gibson GJ, McGregor MJ, Dent JB. Individual response spread in self-report scales: personality correlations and consequences. *Pers Individ Differ* 1998; 24: 421–38.
- 44) Morris CJ, Cantrill JA, Weiss MC. GP survey response rate: a miscellany of influencing factors. *Family Practice* 2001; 18: 454–6.
- 45) Sudman S. Mail surveys of reluctant professionals. *Evaluation Review* 1985; 9: 349–60.
- 46) VanGeest JB, Johnson TP, Welch VL. Methodologies for improving response rates in surveys of physicians—a systematic review. *Eval Health Prof* 2007; 30: 303–21.
- 47) Cook JV, Dickinson HO, Eccles MP. Response rates in postal surveys of healthcare professionals between 1996 and 2005: an observational study. *BMC Health Serv Res* 2009; 14: 9.
- 48) Hobbs FDR, Erhardt L. Acceptance of guideline recommendations and perceived implementation of coronary heart disease prevention among primary care physicians in five European countries: the Reassessing European Attitudes about Cardiovascular Treatment (REACT) survey. *Family Pract* 2002; 19: 596–604.
- 49) Renzi C, Tabolli S, Ianni A, Di Pietro C, Puddu P. Burnout and job satisfaction comparing healthcare staff of a dermatological hospital and a general hospital. *J Eur Acad Dermatol* 2005; 19: 153–7.
- 50) Galeazzi GM, Mackinnon A, Curci P. Constraints perceived by psychiatrists working in community mental health services. Development and pilot study of a novel instrument. *Community Ment Health J* 2007; 43: 609–18.
- 51) Førde R, Aasland OG, Akre V. General practitioners, community physicians and hospital physicians. How different are they? *Tidsskr Nor Lægeforen* 2006; 23: 2781–6.