BMJ Open

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Journal:	*BMJ Open*
Manuscript ID	bmjopen-2018-023576
Article Type:	Research
Date Submitted by the Author:	13-Apr-2018
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Keywords:	Health & safety < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Risk management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, MEDICAL LAW

Publication of disciplinary measures: learning opportunity or punishment? A questionnaire among medical doctors on the consequences experienced

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ABSTRACT

introduction

Disciplinary procedures can have serious consequences for the health, personal life and professional functioning of doctors. In the Netherlands, one specific level of disciplinary measure (reprimands) is published. The additional impact of publishing reprimands on the professional and personal life of doctors is unclear.

methods

All doctors who received a disciplinary measure between July 2012 and August 2016 were invited to partake in a 60-item questionnaire concerning the respondents' characteristics, the complaint, experience with the procedure, and impact of the procedure on health and professional functioning. The response rate was 43% (n=210). 21.4% received a reprimand (published); the remainder received a warning (not published). Differences between the two groups were calculated.

results

Respondents with a reprimand reported significantly more negative experiences and impact on health and work than respondents with a warning. Remarkably, only 22.6% of doctors with a warning and 4.4% of doctors with a reprimand found that the judge had made a correct judgement (p=0.02). 37.8% of the doctors said their health was very good. A small percentage reported moderate to severe depressive complaints (3.6%), moderate to severe anxiety disorder (2%) or indications of burnout (10.8%). The majority reported changes in their professional practices such as doing supplementary research earlier (41%) and complying more with patients' wishes (35%).

conclusion

The disciplinary procedure has negative side effects that may work counter to the primary purpose of disciplinary rules: improving the quality of professional practice. It is recommended that there should be a search for strategies that aid the goals of disciplinary law, with fewer adverse side effects. The idea of transparency should be carefully reconsidered.

strengths and limitations of this study

- This study assesses whether disclosure of disciplinary measures creates extra impact on doctors' welfare, personal life and professional functioning, beyond the impact of the measure itself. This is a valuable addition to the existing body of research.
- The study population was not large
- The two groups of measures (warning and reprimand) may not be comparable because of the context and nature of the complaint and the related culpability and judgement of the disciplinary court.

- the results are self-reported by the respondents

INTRODUCTION

The past few years have seen increasing awareness of the welfare of doctors after a patient safety incident. The literature describes powerful feelings of guilt, incompetence or inadequacy following a medical error. The severity of the consequences of such an experience has even earned doctors the term 'second victim' in scientific literature.[1-6] Findings reveal that the prevalence of second victims of medical errors is high, ranging from 10.4% to 43.3% in various studies.[3, 4] Procedures that might follow a patient safety incident or a patient complaint can profoundly exacerbate this impact. Studies show that procedures related to medicine and law, such as complaints or disciplinary processes, have a major impact on health, personal life and professional functioning.[7-11]

Concerns have been raised that the fear of legal consequences can lead to 'defensive medicine[,[12] a term referring to the practice of performing additional diagnostic tests or medical treatments that are not necessary or not the best option for the patient, in an effort to protect the doctor against complaints or claims. Whether fears of disciplinary consequences are justified or not, defensive practices raise healthcare costs and may subject patients to unnecessary tests and processes.[9, 13] A related problem is the fear of disclosing medical errors. The fear of disciplinary consequences may compromise physicians' ability to communicate effectively with patients.[14]

An interview study among 16 doctors in the Netherlands showed that the disciplinary process after a patient's complaint to a disciplinary tribunal and the measures imposed have a profound psychological and professional impact on the professional.[10]

In the Netherlands, disciplinary measures are taken when a complaint is deemed valid. Specific types of disciplinary measures (reprimands and fines) are published in an online register and in regional newspapers with the aim of improving healthcare quality and providing patients with information about quality (more information in Box 1). Warnings are not published.

In this study, we assess doctors' experiences of the disciplinary procedure and related measures (and their publication) and the impact on welfare and professional functioning.

We have focused on doctors with a complaint that was deemed valid and who have been given a warning (which is not publicly disclosed) and doctors who were given a reprimand (which is publicly disclosed), then assessing whether differences can be observed between the two groups.

Box 1: Information about the Dutch disciplinary system

The disciplinary system as set down in the Dutch Individual Healthcare Professions Act (BIG) is aimed at correcting the care providers' behaviour, improving healthcare quality and learning. Patients and other parties with a direct interest can file a complaint with the Medical Disciplinary Board. Even though the procedure places the professional conduct of individual doctors under scrutiny, the disciplinary procedures do not have the formal purpose of punishing doctors.

The BIG Act sets out two disciplinary standards. The first refers to individual healthcare in neglecting a patient's need for care, including incorrectly informing the patient, incorrect or delayed diagnosis or failure to perform a treatment. The second disciplinary norm refers to the general interest embodied in proper pursuit of the profession. This includes administrative actions, dealing with colleagues or actions in the media. The disciplinary standards are well-formulated; liabilities from other laws, codes of conduct and the guidelines of a scientific association are also included.[15]

If a complaint is found to be valid, doctors can be disciplined with (in order of gravity of the measure) a warning, a reprimand, a monetary fine, a conditional or definite suspension, withdrawal of the right to perform certain processes or of the right to re-register (in cases where a professional voluntarily resigns from a register), or removal from the register. Since 1 July 2012, besides the restrictive measures (conditional suspension, withdrawal of the right to perform certain processes, removal from the register) reprimands and fines imposed by the Medical Disciplinary Board are

published as well. The idea is that disclosure of the measures imposed can protect the public against dysfunctional care providers and provide them with information for making a better choice of healthcare professional. Furthermore, it would also help us learn from things that went wrong in healthcare.[16, 17]

Although other countries such as Germany, the UK and the USA also have disciplinary systems where comparable measures can be imposed, there are also important differences. For instance, there are differences in definitions used (such as fitness to practice versus professional misconduct), the structures and levels of the bodies handling them, and the likelihood of a formal judgement after a complaint has been received can vary greatly.[18, 19] These differences in procedural characteristics have to be taken into account when comparing research outcomes.

AIM AND RESEARCH QUESTIONS

The objective of this study is to describe the impact experienced from a disciplinary measure from the viewpoint of the healthcare professional.

Research questions are:

1. What feelings did doctors experience during the disciplinary procedure?
2. What impact does a disciplinary measure have on the doctor's (a) health (in general and the impact of the procedure on health at moment of filling out questionnaire and directly after the procedure), (b) professional functioning, (c) business/financial consequences and (d) career opportunities?
3. Are there differences between people who received a warning and those who received a reprimand in terms of the experiences and the perceived impact?

METHODS

study population and data collection

This study focused on all medical doctors who received a warning or reprimand during the period July 2012 to August 2016. To give an indication of the numbers of disciplinary measures imposed annually: approximately 700 measures were imposed by a disciplinary board in the Netherlands in 2015.[20]

Doctors were enrolled in the study through the disciplinary boards. They all received a letter in September 2016 containing the invitation to fill in a questionnaire online. To maximize the response, two reminder letters were sent.

In order to ensure the privacy of the doctors, the following measures were taken in close consultation with the disciplinary boards and the Ministry of Health:

- All letters were sent by the disciplinary board; the doctors remained anonymous for the researchers.
- A privacy policy was drawn up describing the process. This privacy policy was sent with the letter requesting participation in the study.
- All letters were sent in a blank envelope and the word 'confidential' was printed on the envelope.
- For privacy reasons, no response records were kept, so the two reminder letters were sent to all professionals. In order to create a homogenous study population with comparable contextual factors such as education, all care professionals other than medical doctors were removed from the dataset.

- The disciplinary boards received no information about which doctors did and did not respond.

questionnaire

The questionnaire is based on insights from national and international literature.[7, 10, 21, 22] The questionnaire concerned the following subjects:

- General characteristics: respondent's characteristics and occupation
- Parameters of the complaint that led to the procedure
- Feelings experienced during the disciplinary procedure (measured on a ten-point-scale (not at all to very much)
- Self-reported general health (very bad to very good), perceived impact of the disciplinary process on health (10-point scale from no impact to a very large impact), Patient Health Questionnaire (PHQ-9) for measuring depressive complaints, the Generalized Anxiety Disorder scale (GAD-7) and the shortened version of Maslach Burnout Inventory Test)
- Changes in professional functioning due to the disciplinary process, business/financial consequences and career opportunities after the disciplinary procedure

To check the face validity of the questionnaire, we asked the members of an advisory committee of medical professionals, Disciplinary Board members, the Patient Federation of the Netherlands and the Ministry of Health, Welfare and Sports to review the questionnaire (in writing). Based on their reactions, the questionnaire has been adjusted. The questionnaire was then sent to 10 healthcare professionals (4 healthcare psychologists, 4 doctors, 1 nurse, 1 physiotherapist) registered under the BIG At. They were asked if the questions were properly understandable and clearly formulated, whether the answer categories were correct, whether they thought any answer categories or questions were missing, whether it was easy to fill out and whether the questionnaire was logically structured. Their feedback was used to draw up the final version of the questionnaire.

patient and public involvement

As described, patients were represented during the assessment of the questionnaire. Furthermore, part of the complaints were lodged by patients or their family, through which they are included in the study in an indirect way.

analyses

The questionnaires of the following classes of respondents were removed from the data file:

- Respondents who indicated that they had not received a reprimand or warning (n = 37);
- Respondents who stated that the disciplinary process had not yet been completed (n = 5);
- Respondents who filled in less than half of the questions (n = 2);
- Respondents with an occupation other than medical doctors (n=84).

calculating composite scores of outcome variables

When determining the effects of the disciplinary measure on doctors' health, the following scores were calculated:

Depressive symptoms: scores on the PHQ-9 items ranged from 0 (not at all) to 3 (almost every day). We calculated a sum score for the respondents who filled in all the items. As in Bourne *et al*. (2015), we considered respondents with a score of 10 or higher to be depressed. [7]

Anxiety disorders: scores on the GAD-7 items ranged from 0 (not at all) to 3 (almost every day). We calculated a sum score for the respondents who filled in all the items. As in Bourne *et al.* (2015), we considered respondents with a score of 10 or above to be suffering from anxiety disorder.[7]

Burnout: the scores on the shortened version of the Maslach Burnout Inventory Test ranged from 0 (never) to 6 (every day). We calculated an average score for the respondents who filled in three or more of the five items. We compared the results to the National Survey of Working Conditions benchmark (NEA), in which a large number of Dutch employees are asked about their organization and content of labour, labour relations, working conditions and their health. As in the NEA, we considered respondents with a score of 3.20 or above to be suffering from burnout complaints. [21]

comparison groups of doctors

The responses of doctors with a reprimand and doctors with a warning were compared using ANOVA analyses (averages), chi-squared tests and Fisher's exact tests (with frequency distributions). We considered differences to be significant where they had a p-value of <0.05.

ethical considerations

This study was based on questionnaires completed by doctors; no patients were involved. As all the research participants were competent individuals and no participants were subjected to any interventions or actions, no ethical approval was needed under Dutch law on medical research (Medical Research Involving Human Subjects Act, http://www.ccmo.nl). Participation in the study was voluntary. The questionnaire data was stored and analysed anonymously, in accordance with the Dutch Personal Data Protection Act (http://www.privacy.nl/uploads/guide_for_controller_ministry_justice.pdf).

RESULTS

general characteristics of the study population and complaints process

The response rate for the questionnaire was 43%. After exclusion of the respondents as described in the methods section, 210 doctors were left in the data file.

Of these, 78.7% were male. The over-50 age groups are somewhat overrepresented (together 75.2%, Table 1). In the total Dutch population of doctors in 2015, 49.4% were male, and 6.2%[1] were older than 65.[23] In our study population, 38.4% were general practitioners, 48.2% medical specialists, 13.4% other. For more than one third of the respondents, it was more than 2 years since they received their warning or reprimand (not in table). Of all respondents, 78.6% were given a warning and 21.4% a reprimand.

Table 1: Characteristics of the study population: doctors given a reprimand (n=45) and doctors given a warning (n=162-165)

	Reprimand	Warning	Total
Age			
39 or younger	0%	6.7%	5.2%
40-49	15.6%	20.6%	19.5%
50-59	42.2%	37.0%	38.1%
60 or older	42.2%	35.8%	37.1%

[1] Data is only available for age 65 and older

Male	84.4%	77.2%	78.7%
Female	15.6%	22.8%	21.3%

experiences with the disciplinary procedure

The most commonly experienced feeling among doctors during the procedure was that they felt under attack, and this significantly differed between doctors receiving a warning (average score 6.8) and a reprimand (average score 8.2). Other feelings experienced were being criminalized, powerlessness or being insane. For all these items, significant differences were found for doctors receiving warnings and reprimands, with the latter group reporting higher scores (Table 2). 22.6% of the doctors getting a warning and 4.4% of the doctors getting a reprimand were of the opinion that the judge had made a right judgement on the disciplinary complaint (p=0.02) (not in table).

Table 2: Feelings experienced during the disciplinary procedure, average on a scale from 0 to 10 (not at all to very much) (N=191-207)

	Warning	Reprimand	P-value
Attacked	6.8	8.2	0.0031
Criminalized	4.6	7.5	0.000
Powerless	5.9	7.5	0.0034
Mad	6.1	7.0	0.05
Insecure	4.8	5.6	
Lonely	4.2	5.3	
Sad	4.2	4.8	
Scared	3.3	4.0	
Embarrassed	3.2	4.3	
Guilty	2.3	2.7	
Failed	2.4	2.9	
Relieved	0.8	0.4	

* Only significant differences are given

health of disciplined doctors

The doctors answered several questions about their health at the time of filling in the questionnaire (see Table 3). Almost four out of ten found their own health to be very good at that moment (37.8%). Immediately after the procedure, the self-reported impact of the disciplinary process on the self-perceived health of doctors was on average 5.0 for the whole population (not in table). The differences between doctors receiving reprimands (5.8) and warnings (4.8) were not significant. As time passed, the effect of the procedure on health diminished (a mean of 1.7 for the whole group at moment of filling out the questionnaire). The difference between the doctors receiving reprimands (2.1) and warnings (1.6) continued to exist. Differences in the impact between respondents whose judgement was issued up to one year ago and more than one year ago were not significant (not in table).

A small percentage of respondents reported moderate to severe depressive complaints (3.6%), moderate to severe anxiety disorder (2%) or indications of burnout (10.8%). Furthermore, almost a quarter reported being absent from work in the last 12 months. Only the latter result gave significant differences, this time in favour of the doctors receiving a reprimand (10.8%) compared to doctors receiving a warning (26.2%).

Table 3: Percentage of respondents who reported specific health complaints, for doctors given a reprimand (n=42-45) and doctors given a warning (n=164)*

	Reprimand	Warning	Total	Chi^2 (p)
General health status				-
Poor or very poor	2.2%	1.2%	1.4%	
Okay	6.7%	7.3%	7.2%	
Well	51.1%	54.3%	53.6%	
Very good	40%	37.2%	37.8%	
Depressive complaints (>9 on PHQ-9)	7.1%	2.6%	3.6%	-
Anxiety complaints (>9 on GAD-7)	2.3%	1.9%	2.0%	-
Burnout (>3.2 on NEA questions)	5.4%	12.2%	10.8%	-
Work absence in the last 12 months (one or more times)	10.8%	26.2%	23.1%	3.93 (0.047)

* Only significant differences are given

impact on professional functioning

According to the majority of doctors, the disciplinary process had a negative impact on their professional functioning. 71.1% of doctors given a reprimand indicated that the procedure only had a negative impact. Among doctors receiving warnings, this was significantly less, at 40.8% (p=0.004, chi^2=13.19). 4.4% of doctors given a reprimand and 8.5% of doctors given a warning indicated that the procedure had a positive impact (not in table).

The disciplinary process resulted in various changes in the professional practice of respondents (see Table 4). Doctors reported that they make more accurate notes in patients' files (64.2%) and they discuss improvement measures with colleagues and/or supervisor (60.8%) more since the disciplinary process. There are significant differences between doctors given a reprimand and doctors given a warning on three items: seeing each patient as a potential new complainant (52.8% v. 33.6%), doing supplementary research earlier (57.6% v. 37.4%), and complying more with the wishes of patients (52.9% v. 30.8%) (Table 4).

Table 4: Percentage of doctors who agree or totally agree with statements about changes in their professional practice due to the disciplinary procedure for doctors given a reprimand (n=53-61) and doctors given a warning (n=174-191)*

Since the disciplinary process:	Reprimand	Warning	Total	Chi² (p)
I make more accurate notes in patient records	77.8%	60.8%	64.2%	-
I have discussed possible improvement measures with my colleagues / managers	70.0%	58.8%	60.8%	-
I do supplementary research earlier	57.6%	37.4%	41.3%	4.47 (0.03)
I accede more to the wishes of patients	52.9%	30.8%	35%	5.93 (0.01)
I try to avoid risky patients	52.9%	40.8%	43.1%	-
I see each patient as a potential new complainant	52.8%	33.6%	37.4%	4.56 (0.033)
I avoid similar patients to the complainant	40%	30.1%	32.0%	-
I work more strictly according to protocols	36.1%	27.9%	29.5%	-
I avoid certain actions	36.4%	25.5%	27.6%	-
I try to communicate better with patients	20.6%	28.2%	26.7%	-
I see that it was necessary to implement improvement measures	17.1%	28.5%	26.3%	-
I can signal discomfort in patients earlier	20%	15.1%	16.0%	-

* Only significant differences are given

consequences for business/finances and career opportunities

Doctors were asked about various consequences on their business or finances of their involvement in a disciplinary process (see Table 5). Doctors given reprimands reported more negative consequences than doctors given warnings. These differences were significant for loss of patients (p=0.000), fewer new patients (p=0.002), colleagues who no longer want to work with them or refer patients to them (p=0.036), and consequences for career opportunities (p=0.000).

Table 5: Percentage of respondents who reported consequences for their business or finances and career opportunities from the disciplinary process for doctors given reprimands (n=33-81) and warnings (n=151-212)

	Reprimand	Warning	Total	Chi^2 (p)
Lost patients				**19.75 (0.000)**
Yes	28.9%	9.8%	13.9%	
No	47.8%	72.4%	64.9%	
I don't know	22.2%	11.7%	13.9%	
N/A	11.1%	6.1%	7.1%	
Fewer new patients				**15.07 (0.002)**
Yes	13.5%	2.7 %	4.8%	
No	56.8%	82.5%	77.4%	
I don't know	24.3%	9.4%	12.4%	
N/A	5.4%	5.4%	5.4%	
Colleagues who don't want to collaborate or don't want to refer patients to them				**8.55 (0.036)**
Yes	0%	2.7%	2.2%	
No	75.7%	89.2%	86.5%	
I don't know	21.6%	7.4%	10.3%	
N/A	2.7%	0.7%	1.1%	
Consequences for career opportunities				**20.3 (0.000)**
Yes	**33.3%**	**7.6%**	**13.2%**	
No	**66.6%**	**92.4%**	**86.8%**	

[a] Respondents could choose multiple options. The percentages do not therefore add up to 100

DISCUSSION

In this study, a questionnaire was submitted to doctors on whom a disciplinary judge had imposed a warning or reprimand. The latter measure is disclosed to the public in the Netherlands. This study aimed to assess the experiences with the disciplinary procedure and whether this disclosure creates extra impact on doctors' welfare, personal life and professional functioning, beyond the impact of the measure itself. We believe this is a valuable addition to the existing body of research.

the burden of publishing measures

In some countries, new and transparent forms of medical regulation have been introduced, often driven by political responses to high-profile scandals [24, 25].Transparency can be understood as a policy measure for enhancing public accountability and legitimacy of governmental institutions. Although transparency is commonly assumed to be a good thing, its consequences in practice are not clear.

This study shows that the consequences for doctors with a published disciplinary measure imposed are mostly negative. For several outcomes it was clear that the impact was experienced as greater by doctors given reprimands (which are published as a notice in the public online BIG register), compared to doctors given warnings (which are not published). Publishing also clearly leads to consequences for the practice, such as losing patients, getting fewer new patients and obstruction of career opportunities.

Doctors seem to experience disciplinary action as having negative effects. These effects may be counter to the primary purpose of the disciplinary system, which is to improve the quality of professional practice by standardizing and disciplining individual doctors, especially when disciplinary action increases the practice of defensive medicine. In this study, doctors indicated they do supplementary research earlier, and avoid certain patients.

The results of this study are even more significant in the light of a growing awareness of the impact that experiencing a patient safety incident can have on healthcare professionals.[6] Healthcare professionals can be traumatized by the event itself, reactions of patients and their families, or comments from colleagues. Wu *et al.* recommend supporting doctors who made mistakes.[5, 6] This support is best provided by peers, or by a mentor or supervisor. Without this kind of support, many doctors do not discuss their errors with colleagues because they cannot identify physicians who are supportive listeners.[26] Support programmes have even been developed,[27] and it has been demonstrated that supporting doctors leads to better quality of care.[3] This study shows that the disciplinary process in the Netherlands is at odds with scientific consensus that nurturing a culture of support, in contrast to naming and blaming, is beneficial to patients and doctors alike. If we measure the importance of transparency against the negative consequences of publishing measures for doctors, does the scale tip in favour of transparency?

general effects of disciplinary procedure

The responding doctors also reported positive effects, such as making more accurate notes in patient records, and discussing improvement measures with colleagues. This may help improve the quality of care. Nevertheless, the majority of doctors experienced the disciplinary procedure as having a negative impact on their health and on their professional functioning and business. Care providers who were given reprimands agreed less with the disciplinary judge than care providers given warnings (6% versus 21%). Furthermore, they reported emotions such as feeling under attack, powerless, angry and criminalized.

Although the design of disciplinary procedures varies between countries,[18, 19] all studies on this subject point in the same direction. The results of this study again confirm the results of other studies on the negative effects of disciplinary procedures on doctors' health and functioning.

While reflecting on the results of this study, it is important to keep in mind that Dutch the disciplinary system aims to improve the quality of care, not to punish doctors or to satisfy the patient who makes the complaint.

Apparently, the word 'discipline' evokes associations with the concept of punishment. The care providers involved experience the punitive nature of disciplinary law.

consequences for health

A positive sign is that the perceived impact of the procedure on the self-reported health of doctors diminishes with time.

Doctors involved in disciplinary procedures show higher rates of mental health disorders than their colleagues who have not.[7, 28, 29]

The mental health of the respondents in this study is good compared to other studies to disciplined doctors. For instance, the figures found in the present study are lower for depression (3.6%) and anxiety (2%) than in a study by Bourne *et al*. (2015) in the United Kingdom.[7] In Bourne *et al*., 16.9% of doctors with recent or ongoing complaints reported clinically significant symptoms of moderate to severe depression. Doctors in this group were at increased risk of depression compared to those with a past complaint or no personal experience of a complaint. Moreover, 15% of doctors in the recent complaints group reported clinically significant levels of anxiety on the GAD-7 tool, which was twice as likely as doctors who have no complaints (7%).[7]

Important to note is that various studies show doctors have higher rates of mental health disorders, including depression, anxiety, substance abuse and burnout, than other occupational groups, yet getting help may be undermined by lack of willingness to access services. Some 10-20% of doctors are thought to become depressed at some point in their careers.[28, 30, 31]

The National Survey of Working Conditions (NEA) of 2015 showed that 14% of respondents working in Dutch healthcare met the criteria for burnout complaints.[21] In this study we found a comparable percentage: 12% of doctors met the criteria. Another study among a substantial number of surgeons with malpractice lawsuits filed against them in the USA showed that (with respect to symptoms of burnout) 22.9% of surgeons reported symptoms of emotional exhaustion weekly and 14.9% reported symptoms of depersonalization weekly.[29]

In the NEA benchmark, 50% of respondents working in healthcare indicated that they had been absent from work at least once in the past 12 months. In our study, this was only a quarter.

A concern that may arise is the association between distress among doctors with perceived medical errors and decreased empathy and compassion for patients, negatively affecting the quality of care. West *et al*. also reported a link between doctors' distress and subsequent self-reported errors, suggesting a vicious cycle whereby medical errors may lead to personal distress, which then contributes to further deficits in patient care.[32] This supports the reasoning that complaints procedures that aim to help the quality of care may in fact have a counterproductive effect.

professional and business consequences

At a professional level, there is a risk of defensive behaviour in response to a disciplinary or other complaint. For example, doctors who practice defensive medicine prescribe medication more quickly than is strictly necessary, or refer to a specialist colleague earlier.[7, 10, 11, 22]

In this study, doctors with disciplinary measures imposed also show signs of practicing defensive medicine: at least one third of the healthcare practitioners indicated that they do more additional research, avoid risky patients and see each patient as potential new complainant due to the disciplinary process. And the numbers are higher for doctors whose measures have been published.

Although study results differ, defensive medicine is a small but significant factor in healthcare costs

and is of marginal benefit to patients.[33, 34]For instance, defensive ordering of diagnostic tests not only leads to higher radiation exposure to patients, but it may additionally lead to over-diagnosis. That is, the detection of new findings not associated with a substantial impact on health which in turn may cause further unnecessary actions.[35] Furthermore, it increases the workload for hospital personnel.[36]

Most respondents reported that the disciplinary process mainly had negative consequences on their professional functioning and business. However, in another study, positive consequences were reported as well. This Australian study confirmed that doctors' concerns about medicolegal issues have an impact on their business or finances in a variety of ways. As well as prescribing more medicine and referring more patients, they also reported improved communication of risk (66%), developed better systems for tracking results (48%), increased disclosure of uncertainty (44%) and better methods for identifying non-attenders (39%). There was a greater perceived impact on those doctors who have previously experienced a medicolegal matter.[37, 38] In our study, both groups of healthcare practitioners also reported positive changes being made in their practice, such as making more detailed notes in the patient records since the disciplinary procedure and discussing improvement measures with colleagues and/or supervisors. Nevertheless, most study results on defensive medicine show that it has a negative impact on care providers, patients and the healthcare system in a broader sense.

It is important to note that the business and financial consequences reported can only be a result of publication of the imposed measure, as patients could only know about it through publication of the reprimand.

limitations

The study population was not large; however, the numbers were sufficient for the statistical analyses.

The two groups of measures (warning and reprimand) may not be comparable because of the context and nature of the complaint and the related culpability and judgement of the disciplinary court. However, in order to study the phenomenon of publication of disciplinary measures and the experiences with it, this was the best feasible design. Furthermore, the relationship between the measure and the outcome variables has not been analysed, but the results are self-reported by the respondents. This may be rather subjective and a causal relationship between the disciplinary procedure and the outcome variables, or publication of the measure and the outcome variables cannot be proven.

The response rate was moderate, which may have caused a non-response bias. Non-response analysis was not possible because no characteristics of the non-respondents are available, in part due to meticulous privacy regulations.

The study population was not comparable to the Dutch population of doctors in terms of age and gender. It is unclear why the percentage of males is so high in the study population. The fact that the study population is older compared to the Dutch population can be explained by the fact that the older the doctor is, the more chance there is that they will ever have a complaint filed against them.

CONCLUSION

Procedures and rules to guarantee quality of care must exist. However, besides some positive consequences for quality of care, disciplinary law seems to have several negative side effects on health, professional functioning and business or financial consequences for doctors that outweigh the positive consequences. Publishing the disciplinary measures also seems not to benefit the quality of healthcare.

A system that leads to doctors who are distressed, absent from work and practicing defensive medicine is not efficient, does not necessarily lead to better healthcare for patients and leads to

higher healthcare costs for society. This may be counterproductive to the pursuit of the primary purpose of disciplinary law: improving the quality of professional practice by standardization and by correction of individual doctors.

As with any negative side effect, it is advisable to continue looking for strategies that aid the goals of disciplinary law, but without (or at least with fewer) adverse side effects. For instance, one strategy could be to support doctors who experience complaints or adverse events through systematically embedded support systems. Lastly, the importance of transparency in healthcare should be carefully reconsidered.

CONTRIBUTORSHIP STATEMENT

RB, BL, AV and RF participated in the design of the study. RB and MH analyzed and interpreted the data. All authors helped to draft the manuscript. All authors critically revised and approved the final manuscript. All authors agreed to be personally accountable for the author's own contributions and for ensuring that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and documented in the literature.

ACKNOWLEDGMENTS

The authors thank the people who submitted a questionnaire for their co-operation.

COMPETING INTERESTS

The authors declare no conflict of interests.

FUNDING

This study was funded by the Dutch ministry of Health, Welfare and Sports.

DATA SHARING STATEMENT

Extra data is available by emailing R. Bouwman: r.bouwman@nivel.nl

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BMJ Open

How do doctors in the Netherlands perceive the impact of disciplinary procedures and disclosure of disciplinary measures on their professional practice, health, and career opportunities? A questionnaire among medical doctors who received a disciplinary measure

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2018-023576.R1
Article Type:	Research
Date Submitted by the Author:	08-Oct-2018
Complete List of Authors:	Laarman, Berber; Vrije Universiteit Amsterdam, Faculty of Law Bouwman, Renée; NIVEL de Veer, Anke J. E.; Nederlands Instituut voor Onderzoek van de Gezondheidszorg Hendriks, Michelle; Reinier van Arkelgroep Friele, Roland; Nivel,
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research
Keywords:	Health & safety < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Risk management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, MEDICAL LAW, Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

How do doctors in the Netherlands perceive the impact of disciplinary procedures and disclosure of disciplinary measures on their professional practice, health, and career opportunities? A questionnaire among medical doctors who received a disciplinary measure

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ABSTRACT

introduction

Disciplinary procedures can have serious consequences for the health, personal life and professional functioning of doctors. Until recently, specific disciplinary measures (reprimands) were publicly disclosed in the Netherlands. The perceived additional impact of disclosing reprimands on the professional and personal life of doctors is unclear.

methods

All doctors who received a disciplinary measure from the Dutch Disciplinary Board between July 2012 and August 2016 were invited to partake in a 60-item questionnaire concerning the respondents' characteristics, the complaint, experience with the procedure, and perceived impact of the procedure on health and professional functioning as reported by doctors themselves. The response rate was 43% (n=210). 21.4% received a reprimand (disclosed); the remainder received a warning (not disclosed). Differences between the two groups were calculated.

results

Respondents with a reprimand reported significantly more negative experiences and impact on health and work than respondents with a warning. 37.8% of the doctors said their health was very good. A small percentage reported moderate to severe depressive complaints (3.6%), moderate to severe anxiety disorder (2%) or indications of burnout (10.8%). The majority reported changes in their professional practices associated with 'defensive medicine', such as doing more supplementary research (41%) and complying more with patients' wishes (35%).

conclusion

The Dutch disciplinary procedure has strong negative side effects, that publishing measures seems to increase. Dutch disciplinary law aims to contribute to the quality of professional practice. A safe environment is a basic condition for quality improvement and therefore, transparency of disciplinary measures should be carefully considered. Disclosure of disciplinary measures has always been controversial and the results of this study has rekindled this debate. Recently, a majority in the Dutch House of Representatives has voted against disclosure of reprimands, leaving disclosure of reprimands a discretion of the disciplinary board when deemed appropriate or necessary.

strengths and limitations of this study

- This study assesses how doctors perceive the impact of a disciplinary measure on the doctor's (a) health (in general and the impact of the procedure on health at moment of filling out questionnaire and directly after the procedure), (b) professional functioning, (c) business/financial consequences and (d) career opportunities, beyond the impact of the measure itself. This is a valuable addition to the existing body of research.
- The study sample was not large.
- The two groups of measures (warning and reprimand) may not be comparable because of the context and nature of the complaint and the related culpability and judgement of the disciplinary court.
- The results are self-reported by the respondents.

INTRODUCTION

The past few years have seen increasing awareness of the welfare of doctors after a patient safety incident. A growing body of literature describes doctors suffering from powerful feelings of guilt, incompetence or inadequacy following a patient safety incident. The severity of these consequences has even earned doctors the term 'second victim', meaning 'a healthcare provider involved in an unanticipated adverse patient event […] who become victimized in the sense that that the provider is traumatized by the event.' [1-9] Studies reveal that the prevalence of second victims of medical errors is high, ranging from 10.4% to 43.3% in various studies.[3,4]

Procedures that might follow a patient safety incident or a patient complaint can worsen this impact. Studies show that procedures related to medicine and law, such as complaints or disciplinary processes, often have a major impact on health, personal life and professional functioning,[10-14] leading to concerns about the quality of healthcare these professionals provide. A second concern is the phenomenon of 'defensive medicine',[15-17] referring to the practice of performing additional and unnecessary diagnostic tests or the avoidance of high-risk medical treatments for patients in an effort to avoid complaints or claims. Whether fears of disciplinary consequences are justified or not, if professionals display defensive practices these can raise healthcare costs and may subject patients to unnecessary tests and processes.[12, 18] A third concern is that the fear of legal consequences may compromise physicians' willingness to disclose medical errors.[19, 20]

An interview study among 16 doctors in the Netherlands showed doctors experience a profound psychological and professional impact of the disciplinary process and imposed measures that follow a patients complaint to disciplinary tribunal.[13] Until recently, specific types of disciplinary measures (reprimands, fines and measures that restrict professionals from practicing medicine) were disclosed in an online register and in regional newspapers with the aim of improving healthcare quality, providing patients with information about quality of healthcare and warning patients and employers for professionals who are restricted from practice (more information in Box 1). Warnings are not disclosed.

In this study, we assess how disciplined doctors experienced the disciplinary procedure, the related measures and their disclosure and the perceived impact on welfare and professional functioning. We focused on medical doctors with a complaint that was deemed valid by the disciplinary board and who were given a warning (which is not publicly disclosed) and doctors who were given a reprimand (which is publicly disclosed), then assessing whether differences can be observed between the two groups. We hypothesized reprimanded doctors would report a bigger impact than warned doctors, partly due to the disclosure of the reprimand. We realize that differences between the groups can be both resultant of the outcome (heavier measure) as of the disclosure of the measure, or can be mutually reinforcing as a reprimand can be experienced as a heavier measure precisely because it was disclosed.

Box 1: Information about the Dutch disciplinary system

The Dutch disciplinary system as set down in the Individual Healthcare Professions Act (BIG) is aimed at correcting the care providers' behaviour, improving healthcare quality and learning. Patients and other parties with a direct interest (the Dutch Healthcare Inspectorate, employers, or, under certain conditions, colleagues) can file a complaint with the Medical Disciplinary Board. Even though the procedure places the professional conduct of individual doctors under scrutiny, the disciplinary procedures do not have the formal purpose of punishing doctors.

The BIG Act sets out two disciplinary standards. The first refers to individual healthcare in neglecting a patient's need for care, such as incorrectly informing the patient, incorrect or delayed diagnosis or failure to perform a treatment. The second disciplinary norm refers to the general interest embodied in proper pursuit of the profession. This includes administrative actions, dealing with colleagues or actions in the media. The conduct of healthcare professionals assessed under disciplinary standard (1) is measured against the professional standard. The professional standard is composed of the state of the art of medical practice, construed inter alia out of relevant guidelines, protocols, scientific publications and case law by the disciplinary boards. .[21, 22]

If a complaint is judged valid, doctors can be disciplined with (in order of gravity of the measure) a warning, a reprimand, a monetary fine, a conditional or definite suspension, withdrawal of the right to perform certain

treatments or the right to re-register (in cases where a professional voluntarily resigns from a register), or removal from the register. Professionals receive a warning when behaviour was not entirely correct, but not reprehensible. Professionals who acted in breach with the professional standard but who are still fit for unconditional practice receive a reprimand. In practice, the line between a warning and a reprimand can be vague.

From 1 July 2012 until 10 July 2018 besides the restrictive measures (conditional suspension, withdrawal of the right to perform certain processes, removal from the register) reprimands and fines imposed by the Medical Disciplinary Board are disclosed as well. The idea is that disclosure of the measures imposed can protect the public against dysfunctional care providers and provide them with information for making a better choice of healthcare professional. Furthermore, it would also help us learn from things that went wrong in healthcare.[23, 24]

Although other countries such as Germany, the UK and the USA also have disciplinary systems where comparable measures can be imposed, there are also important differences. For instance, there are differences in definitions used (such as fitness to practice versus professional misconduct), the structures and levels of the bodies handling them, and the likelihood of a formal judgement after a complaint has been received can vary greatly.[25, 26] These differences in procedural characteristics have to be taken into account when comparing research outcomes.

AIM AND RESEARCH QUESTIONS

The objective of this study is to describe the experience of medical doctors with and the perceived impact of a disciplinary procedure and a disciplinary measure. Research questions are:

1. What feelings did doctors experience during the disciplinary procedure?
2. How do doctors perceive the impact of a disciplinary measure on the doctor's (a) health (in general and the impact of the procedure on health at moment of filling out questionnaire and directly after the procedure), (b) professional functioning, (c) business/financial consequences and (d) career opportunities?
3. Are there differences between people who received a warning and those who received a reprimand in terms of the experiences and the perceived impact?

METHODS

study population and data collection

This study focused on all medical doctors who received a warning or reprimand during the period July 2012 to August 2016. To give an indication of the numbers of disciplinary measures imposed annually: approximately 700 measures were imposed by a disciplinary board in the Netherlands in 2015.[27]

Doctors were enrolled in the study through the disciplinary boards. All doctors with a reprimand or warning received a letter in September 2016 inviting them to fill in a questionnaire online. Two reminder letters were sent to maximize the response. Privacy was considered very important given the sensitivity of the subject, so in close consultation with the disciplinary boards and the Ministry of Health we took the following measures:

- All letters were sent by the disciplinary board; the doctors remained anonymous to the researchers.
- A privacy policy was drawn up describing the process. This privacy policy was sent with the letter requesting participation in the study.
- All letters were sent in a plain white envelope without sender address, and the word 'confidential' was printed on the envelope.
- For privacy reasons, no response records were kept, so the two reminder letters were sent to all professionals. In order to create a homogenous study population with comparable contextual factors such as education, all care professionals other than medical doctors were removed from the dataset.
- The disciplinary boards received no information about which doctors did and did not respond and neither did the researchers.

questionnaire

The questionnaire is based on insights from national and international literature.[10, 13, 28, 29] The questionnaire concerned the following subjects:

- General characteristics: respondent's characteristics and occupation
- Parameters of the complaint that led to the procedure
- Feelings experienced during the disciplinary procedure (measured on a ten-point-scale ('not at all' to 'very much')
- Self-reported general health ('very bad' to 'very good'), perceived impact of the disciplinary process on health (10-point scale from 'no impact' to a 'very large impact'), Patient Health Questionnaire (PHQ-9) for measuring depressive complaints, the Generalized Anxiety Disorder scale (GAD-7) and the shortened version of Maslach Burnout Inventory Test)
- Changes in professional functioning professionals consider due to the disciplinary process, business/financial consequences and career opportunities after the disciplinary procedure

To check the face validity of the questionnaire, we asked the members of an advisory committee of medical professionals, Disciplinary Board members, the Patient Federation of the Netherlands and the Ministry of Health, Welfare and Sports to review the questionnaire (in writing). Based on their reactions, the questionnaire has been adjusted. The questionnaire was then sent to 10 healthcare professionals (4 healthcare psychologists, 4 doctors, 1 nurse, 1 physiotherapist) registered under the BIG Act. They were asked if the questions were properly understandable and clearly formulated, whether the answer categories were correct, whether they thought any answer categories or questions were missing, whether it was easy to fill out and whether the questionnaire was logically structured. Their feedback was used to draw up the final version of the questionnaire.

patient and public involvement

As described, patients were represented during the assessment of the questionnaire. Furthermore, part of the complaints were lodged by patients or their family, through which they are included in the study in an indirect way.

analyses

The response rate was 43% (n=210). 21.4% received a reprimand (disclosed); the remainder received a warning (not disclosed). The questionnaires of the following classes of respondents were removed from the data file:

- Respondents who indicated that they had not received a reprimand or warning (n = 37);
- Respondents who stated that the disciplinary process had not yet been completed (n = 5);
- Respondents who filled in less than half of the questions (n = 2);
- Respondents with an occupation other than medical doctors (n=84).

calculating composite scores of outcome variables

When determining the effects of the disciplinary measure on doctors' health, the following scores were calculated:

Depressive symptoms: scores on the PHQ-9 items ranged from 0 (not at all) to 3 (almost every day). We calculated a sum score for the respondents who filled in all the items. As in Bourne *et al*. (2015), we considered respondents with a score of 10 or higher to be depressed. [10]

Anxiety disorders: scores on the GAD-7 items ranged from 0 (not at all) to 3 (almost every day). We calculated a sum score for the respondents who filled in all the items. As in Bourne *et al.* (2015), we considered respondents with a score of 10 or above to be suffering from anxiety disorder.[10]

Burnout: the scores on the shortened version of the Maslach Burnout Inventory Test ranged from 0 (never) to 6 (every day). We calculated an average score for the respondents who filled in three or more of the five items. We compared the results to the National Survey of Working Conditions benchmark (NEA), in which a large number of Dutch employees are asked about their organization and content of labour, labour relations, working conditions and their health. As in the NEA, we considered respondents with a score of 3.20 or above to be suffering from burnout complaints. [28]

comparison groups of doctors

The responses of doctors with a reprimand and doctors with a warning were compared using ANOVA analyses

(averages), chi-squared tests and Fisher's exact tests (with frequency distributions). We considered differences to be significant where they had a p-value of <0.05.

ethical considerations

This study was based on questionnaires completed by doctors; no patients were involved. As all the research participants were competent individuals and no participants were subjected to any interventions or actions, no ethical approval was needed under Dutch law on medical research (Medical Research Involving Human Subjects Act, http://www.ccmo.nl). Participation in the study was voluntary. The questionnaire data was stored and analysed anonymously, in accordance with the Dutch Personal Data Protection Act (http://www.privacy.nl/uploads/guide_for_controller_ministry_justice.pdf).

RESULTS

general characteristics of the study population and complaints process

The response rate for the questionnaire was 43%. After exclusion of the respondents as described in the methods section, 210 doctors were left in the data file. Of these, 78.7% were male. The over-50 age groups are somewhat overrepresented (together 75.2%, Table 1). In the total Dutch population of doctors in 2015, 49.4% were male, and 6.2%[1] were older than 65.[30] In our study population, 38.4% were general practitioners, 48.2% medical specialists, 13.4% other. For more than one third of the respondents, it was more than 2 years since they received their warning or reprimand (not in table). Of all respondents, 78.6% were given a warning and 21.4% a reprimand.

Table 1: Characteristics of the study population: doctors given a reprimand (n=45) and doctors given a warning (n=162-165)

	Reprimand	Warning	Total
Age			
39 or younger	0%	6.7%	5.2%
40-49	15.6%	20.6%	19.5%
50-59	42.2%	37.0%	38.1%
60 or older	42.2%	35.8%	37.1%
Male	84.4%	77.2%	78.7%
Female	15.6%	22.8%	21.3%

experiences with the disciplinary procedure

The most commonly experienced feeling among doctors during the procedure was that they felt under attack, and this significantly differed between doctors receiving a warning (average score 6.8) and a reprimand (average score 8.2). Other feelings experienced were feeling criminalized, feeling powerless or being angry. For all these items, significant differences were found for doctors receiving warnings and reprimands, with the latter group reporting higher scores (Table 2). Only 22.6% of the doctors getting a warning and 4.4% of the doctors getting a reprimand were of the opinion that the judge had made a right judgement on the disciplinary complaint (p=0.02) (not in table). This might not be surprising, but it is relevant as disciplinary procedures are supposed to be a learning experience.

Table 2: Feelings experienced during the disciplinary procedure, average on a scale from 0 to 10 (not at all to very much) (N=191-207)

	Warning	Reprimand	P-value
Attacked	6.8	8.2	0.0031
Criminalized	4.6	7.5	0.000
Powerless	5.9	7.5	0.0034
Angry	6.1	7.0	0.05
Insecure	4.8	5.6	
Lonely	4.2	5.3	
Sad	4.2	4.8	

[1] Data is only available for age 65 and older

Scared	3.3	4.0
Embarrassed	3.2	4.3
Guilty	2.3	2.7
Failed	2.4	2.9
Relieved	0.8	0.4

* Only significant differences are given

health of disciplined doctors

The doctors answered several questions about their health at the time of filling in the questionnaire (see Table 3). Almost four out of ten found their own health to be very good at that moment (37.8%). Immediately after the procedure, the self-reported impact of the disciplinary process on the self-perceived health of doctors was on average 5.0 for the whole population (not in table). The differences between doctors receiving reprimands (5.8) and warnings (4.8) were not significant. As time passed, the perceived effect of the procedure on health diminished (a mean of 1.7 for the whole group at moment of filling out the questionnaire). The difference between the doctors receiving reprimands (2.1) and warnings (1.6) continued to exist. Differences in the impact between respondents whose judgement was issued up to one year ago and more than one year ago were not significant (not in table). As we have no information on the health of professionals prior to the procedure, the perceived change in health directly after the procedure and after the passing of time can be due to other circumstances.

A small percentage of respondents reported moderate to severe depressive complaints (3.6%), moderate to severe anxiety disorder (2%) or indications of burnout (10.8%).

Table 3: Percentage of respondents who reported specific health complaints, for doctors given a reprimand (n=42-45) and doctors given a warning (n=164)*

	Reprimand	Warning	Total	Chi^2 (p)
General health status				-
Poor or very poor	2.2%	1.2%	1.4%	
Okay	6.7%	7.3%	7.2%	
Well	51.1%	54.3%	53.6%	
Very good	40%	37.2%	37.8%	
Depressive complaints (>9 on PHQ-9)	7.1%	2.6%	3.6%	-
Anxiety complaints (>9 on GAD-7)	2.3%	1.9%	2.0%	-
Burnout (>3.2 on NEA questions)	5.4%	12.2%	10.8%	-
Work absence in the last 12 months (one or more times)	10.8%	26.2%	23.1%	3.93 (0.047)

* Only significant differences are given

impact on professional practice

The majority of doctors reported the disciplinary process had a negative impact on their professional practice. 71.1% of doctors given a reprimand indicated that the procedure only had a negative impact. Among doctors receiving warnings, this was significantly less, at 40.8% (p=0.004, chi^2=13.19). 4.4% of doctors given a reprimand and 8.5% of doctors given a warning indicated that the procedure only had a positive impact (not in table).

Respondents reported various changes in their professional practice that are obviously negative (see Table 4):avoiding high-risk patients (47.5% with a reprimand versus 38.2% with a warning), seeing each patient as a new complainant (41.4% vs. 35.2%) and avoiding similar patients as the complainant (41.4% vs. 29%). Some changes can be perceived as positive, such as making more accurate notes in patients' files (64.2%) and discussing improvement measures with their colleagues and/or supervisor (60.8%) more often since the disciplinary process. Some reported changes can be either positive or negative according to context, but are commonly associated with defensive medicine, such as complying to patients wishes more and doing more supplementary research.

There are significant differences between doctors given a reprimand and doctors given a warning on three items: seeing each patient as a potential new complainant (52.8% v. 33.6%), doing supplementary research earlier (57.6% v. 37.4%), and complying more with the wishes of patients (52.9% v. 30.8%) (Table 4).

Table 4: Percentage of doctors who agree or totally agree with statements about changes in their professional practice due to the disciplinary procedure for doctors given a reprimand (n=53-61) and doctors given a warning (n=174-191)*

Since the disciplinary process:	Reprimand	Warning	Total	Chi^2 (p)
I make more accurate notes in patient records	77.8%	60.8%	64.2%	-
I have discussed possible improvement measures with my colleagues / managers	70.0%	58.8%	60.8%	-
I do supplementary research earlier	57.6%	37.4%	41.3%	4.47 (0.03)
I accede more to the wishes of patients	52.9%	30.8%	35%	5.93 (0.01)
I try to avoid risky patients	52.9%	40.8%	43.1%	-
I see each patient as a potential new complainant	52.8%	33.6%	37.4%	4.56 (0.033)
I avoid similar patients to the complainant	40%	30.1%	32.0%	-
I work more strictly according to protocols	36.1%	27.9%	29.5%	-
I avoid certain actions	36.4%	25.5%	27.6%	-
I try to communicate better with patients	20.6%	28.2%	26.7%	-
I see that it was necessary to implement improvement measures	17.1%	28.5%	26.3%	-
I can signal discomfort in patients earlier	20%	15.1%	16.0%	-

* Only significant differences are given

consequences for business/finances and career opportunities

Doctors were asked about various consequences on their business or finances of their involvement in a disciplinary process (see Table 5) with the option to supply further explanation when answering 'yes'. Doctors given reprimands reported more negative consequences than doctors given warnings. These differences were significant for loss of patients (p=0.000), fewer new patients (p=0.002), colleagues who no longer want to work with them or refer patients to them (p=0.036), and consequences for career opportunities (p=0.000) since the disciplinary procedure. 47% of doctors with a reprimand considered to quit working as a doctor, of this group 13% has actually quit. 34% of doctors with a warning considered and 2% has decided to quit working as a doctor.

Table 5: Percentage of respondents who reported consequences for their business or finances and career opportunities from the disciplinary process for doctors given reprimands (n=33-81) and warnings (n=151-212)

	Reprimand	Warning	Total	Chi^2 (p)
Lost patients				**19.75 (0.000)**
Yes	28.9%	9.8%	13.9%	
No	47.8%	72.4%	64.9%	
I don't know	22.2%	11.7%	13.9%	
N/A	11.1%	6.1%	7.1%	
Fewer new patients				**15.07 (0.002)**
Yes	13.5%	2.7 %	4.8%	
No	56.8%	82.5%	77.4%	
I don't know	24.3%	9.4%	12.4%	
N/A	5.4%	5.4%	5.4%	
Colleagues who don't want to collaborate or don't want to refer patients to them				**8.55 (0.036)**
Yes	0%	2.7%	2.2%	
No	75.7%	89.2%	86.5%	
I don't know	21.6%	7.4%	10.3%	
N/A	2.7%	0.7%	1.1%	
Consequences for career opportunities				**20.3 (0.000)**

Yes	**33.3%**	**7.6%**	**13.2%**
No	**66.6%**	**92.4%**	**86.8%**

DISCUSSION

the Dutch disciplinary system and transparency

The Dutch disciplinary system aims at quality improvement by correcting and, in severe cases restricting, professionals' behaviour. Disciplinary case law is published anonymously and is part of the Dutch professional standard for healthcare professionals, prescribing desired behaviour in specific circumstances in order to learn from others' mistakes. Since July 2012 the names of doctors given reprimands, a disciplinary measure imposed for behaviour that was incorrect, yet not reason enough to restrict practice, were disclosed online and in print to provide the public with quality information. From the onset this policy has led to debate between politicians, patient representatives, and doctors' associations, the first desiring maximum transparency, the latter claiming a culture of 'naming and shaming'.[31, 32]

The call for transparency is often driven by a political response to high-profile scandals [33, 34] and can be understood as a policy measure for enhancing public accountability and legitimacy of governmental institutions. Although transparency is commonly assumed to be a good thing, it can leave unintended damage in its wake. This study aimed to assess doctors' experiences with the disciplinary procedure and whether reprimanded doctors whose measure was disclosed perceived an extra impact on their welfare, personal life and professional functioning, beyond the impact of the measure itself. A questionnaire was submitted to doctors who received a warning or reprimand from a disciplinary board. Until recently, all reprimands were disclosed to the public in the Netherlands. In April 2018 a majority in the Dutch House of Representatives voted against disclosure of reprimands, leaving disclosure of reprimands a discretion of the disciplinary board when deemed appropriate or necessary.

adverse consequences of disciplinary procedures

This study shows that disciplinary procedures are often a taxing experience for doctors, who perceive the procedure and its consequences predominantly negative. Respondents reported emotions such as feeling under attack, powerless, angry and criminalized. We found some impact on physical and mental health, confirming the results of previous studies on the effect of medico-legal procedures on doctors' health and functioning [10, 14, 35-40] but the effect we found was relatively small compared to some other studies, such as Bourne *et al.* [10].

Besides negative effects, the responding doctors also reported positive changes, such as making more accurate notes in patient records and discussing improvement measures with colleagues. This confirms results from the study by Plews-Ogan *et al,* that doctors are willing to learn from their mistakes and possibly become better doctors because of it.[41] Nevertheless, learning currently comes at a high price, as the majority of doctors experienced the disciplinary procedure as having a negative impact on their health and on their professional functioning and business. Most striking is the percentage of doctors quitting after a disciplinary measure, as these doctors were not found unfit to practice.

For several outcomes it was clear that the perceived the impact was greater compared to doctors given warnings (which are not disclosed). Public disclosure also clearly led to consequences for practice, such as losing patients, getting fewer new patients and obstruction of career opportunities since the disciplinary procedure. For the latter category, examples given were not being able to get a new job or getting questioned about the reprimand by the health insurer. It is important to note these consequences are most likely due to disclosure of the reprimand. Unless the case has received a lot of media attention, healthcare insurers and patients are unlikely to know about reprimands otherwise.

Since the Dutch disciplinary system is aimed at maintaining quality of healthcare, wellbeing of doctors during and after disciplinary procedures should be high at the patient safety agenda. In a study regarding the consequences of malpractice lawsuits, Balch et al state it is difficult to determine the 'direction of effect'. I.e., our data can also be explained such that mental issues led to suboptimal healthcare, leading to a complaint to a disciplinary board, with more severe mental issues resulting in a reprimand instead of a warning. Similarly, we are careful to jump to conclusions regarding the impact of disciplinary procedures on (mental) health.

However, West *et al*. reported a link between doctors' distress and subsequent self-reported errors, suggesting a vicious cycle whereby medical errors may lead to personal distress, which then contributes to further deficits in patient care.[42] This association between distress among doctors with perceived medical errors and decreased empathy and compassion for patients, negatively affecting the quality of care, supports the reasoning that complaints procedures that aim to increase the quality of care may in fact have a counterproductive effect.

The second victim

The results of this study are even more significant in the light of a growing awareness of the impact that experiencing a patient safety incident can have on healthcare professionals.[6] Healthcare professionals can be traumatized by the event itself, reactions of patients and their families, or comments from colleagues. Wu *et al.* recommend supporting doctors who made mistakes.[5, 6] This support is best provided by peers, or by a mentor or supervisor. Without this kind of support, many doctors do not discuss their errors with colleagues because they cannot identify physicians who are supportive listeners.[43] In the Netherlands as elsewhere support programmes have been developed.[44] It has been demonstrated that supporting doctors leads to better quality of care.[3]

Patient satisfaction

The patient who makes the complaint does not have a formal stake in the disciplinary procedure and thus disciplinary law does not seek to fulfil the needs of the patient who makes the complaint. However, in the light of the results of this study it is important to keep in mind research into patient satisfaction with Dutch complaint procedures revealed only half of complaining patients report satisfaction with the disciplinary procedure. This is most likely due to a reported lack of confidence that the disciplinary procedure will change or improve healthcare.[45] This leads us to the conclusion that the disciplinary process in the Netherlands is at odds with scientific consensus that nurturing a culture of support, in contrast to naming and blaming, aids learning and is beneficial to patients and doctors alike. If we weigh the importance of transparency against the negative consequences of disclosing measures for doctors, does the scale tip in favour of transparency?

CONCLUSION

Procedures and rules to guarantee quality of care must exist. However, besides some positive consequences for quality of care, disciplinary law seems to have several negative side effects on health, professional functioning and business or financial consequences for doctors that outweigh the positive consequences. Disclosing the disciplinary measures does not seem to benefit the quality of healthcare.

A system that leads to doctors who are distressed and display behaviour that is associated with defensive medicine, such as avoiding certain patients and doing possibly unnecessary supplementary research, is not efficient, does not necessarily lead to better healthcare for patients and leads to higher healthcare costs for society. This may be counterproductive to the pursuit of the primary purpose of disciplinary law: improving the quality of professional practice by standardization and by correction of individual doctors. Supporting doctors after complaints and patient safety incidents, enabling them to learn from mistakes and aid them in disclosure, should be systematically embedded to ensure doctors' and patients' best interests.

LIMITATIONS

The study sample was not large; but the numbers were sufficient for the statistical analyses.

In order to study the phenomenon of disclosure of disciplinary measures and the experiences with it, this was the best feasible design. Still, the two groups of professionals with disciplinary measures (warning and reprimand) may not be comparable because of the context and nature of the complaint and the related culpability and judgement of the disciplinary court.

Reported (mental) health issues could have been a result, or an underlying cause of complaints. The bigger the health issues, the heavier the measure and hence the disclosure of the measure, one might reason. Respondents also might experience the measure as heavier precisely because it is publicly disclosed. Furthermore, the relationship between the measure and the outcome variables has not been analysed, but the results are self-reported by the respondents. This may be rather subjective. Therefore, a causal relationship between the disciplinary procedure and the outcome variables, or disclosure of the measure and the outcome variables cannot be proven.

The response rate was moderate, which may have caused a non-response bias. Non-response analysis was not possible because no characteristics of the non-respondents are available, in part due to meticulous privacy regulations. All letters were sent by the disciplinary board; the doctors remained anonymous to the researchers. It was stressed that people were entirely free to decide whether or not to complete the questionnaire and they could return the questionnaire to the researchers anonymously. The researchers had no information about non-responders. An important reason for the non-response could be that filing in the questionnaire made respondents uncomfortable because it revived the situation that the complaint was about. Another reason could be that the disciplinary procedure was already a great burden, making people reluctant to participate.

Consequences of the moderate response rate could be that the study population is not representative to the entire group of doctors who received a disciplinary measure. Possibly a specific group of disciplined doctors, for instance those who feel more empowered, may have responded to our questionnaire.

The study population was not comparable to the Dutch population of doctors in terms of age and gender. It is unclear why the percentage of males is so high in the study population. The fact that the study population is older compared to the Dutch population can be explained by the fact that the older the doctor is, the more chance there is that they will ever have a complaint filed against them.

Complaint- and disciplinary procedures differ between jurisdictions, possibly influencing the severity of the perceived impact. Results should be generalized with caution, taking the specifics of Dutch disciplinary law in consideration when doing so.

This study reveals valuable information about doctors who experience disciplinary consequences. With its limitations, we believe this is an important addition to the existing body of research.

CONTRIBUTORSHIP STATEMENT

BL, RB, AV and RF participated in the design of the study. RB and MH analyzed and interpreted the data. All authors helped to draft the manuscript. All authors critically revised and approved the final manuscript. All authors agreed to be personally accountable for the author's own contributions and for ensuring that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and documented in the literature.

ACKNOWLEDGMENTS

The authors thank the people who submitted a questionnaire for their co-operation.

COMPETING INTERESTS

The authors declare no conflict of interests.

FUNDING

This study was funded by the Dutch ministry of Health, Welfare and Sports.

DATA SHARING STATEMENT

Extra data is available by emailing R. Bouwman: r.bouwman@nivel.nl

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Page numbers refer to pages in clean manuscript (track changes not visible).

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

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract Title: How do doctors in the Netherlands perceive the impact of disciplinary procedures and disclosure of disciplinary measures on their professional practice, health, and career opportunities? A questionnaire among medical doctors who received a disciplinary measure
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found P. 1
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported P. 3
Objectives	3	State specific objectives, including any prespecified hypotheses P. 3
Methods		
Study design	4	Present key elements of study design early in the paper P.4-5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection P.4
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants P.4
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable P. 5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group

		P. 4, P.5, P.6
Bias	9	Describe any efforts to address potential sources of bias P. 11 (Also mentioned in abstract, in introduction at p.3, and in discussion at p.10)
Study size	10	Explain how the study size was arrived at Explained at Item no. 13
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why P.5-6
Statistical methods	12	Describe all statistical methods, including those used to control for confounding: P. 6
		Describe any methods used to examine subgroups and interactions: P.5
		Explain how missing data were addressed: Respondents with missings on a certain variable were left out of the analyses, number of respondents included in the analyses are given in each table in the manuscript. Missings vary from 3-61.
		(*d*) If applicable, describe analytical methods taking account of sampling strategy: N/A
		(*e*) Describe any sensitivity analyses: N/A
Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed P. 5, and in each table
		(b) Give reasons for non-participation at each stage P. 11
		(c) Consider use of a flow diagram N/A
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders P. 6
		(b) Indicate number of participants with missing data for each variable of interest:

		Number of respondents included in the analyses are given at each table, missings vary from 3-61
Outcome data	15*	Report numbers of outcome events or summary measures P. 6
Main results	16	*(a)* Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included N/A
		(*b*) Report category boundaries when continuous variables were categorized N/A
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses N/A
Discussion		
Key results	18	Summarise key results with reference to study objectives P. 10-11
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias P.12
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence P.11
Generalisability	21	Discuss the generalisability (external validity) of the study results P.12
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based P. 12

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely

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