PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	The impact of complaints procedures on the welfare, health and clinical practice of 7,926 doctors in the United Kingdom: a cross-sectional survey
AUTHORS	Bourne, Tom; Wynants, Laure; Peters, Michael; Audenhove, Chantal; Timmerman, Dirk; Van Calster, Ben; Jalmbrant, Maria

VERSION 1 - REVIEW

REVIEWER	Louise Nash Brain and Mind Research Institute University of Sydney Australia
REVIEW RETURNED	20-Oct-2014

GENERAL COMMENTS	This is an important topic and the findings will advance learning on patient safety, complaints processes and doctors' health. I have a few recommendations: the article is too long. It requires a major edit to reduce the word count and write more concisely. Most of the statistics I can understand, but I do not understand the section on "missingness". The limitations are clearly stated regarding the response rate. IN the results section of abstract and body of article, please add the rates of depression etc for the comparison group in the text not just the RR. Define formal and informal complaint. Some of my work was in the reference list, but more appropriate work of mine was from 2009 and 2010 Nash L et al in the Medical Journal of Australia which has similar findings from a large cohort of 2999 doctors in Australia. The response rate in the Australian article was better, but findings similar.

REVIEWER	Christoph Brezinka Gynaecological Endocrinology and Reproductive Medicine Medical University Innsbruck Anichstrasse 35 A 6020 Innsbruck Austria
REVIEW RETURNED	07-Nov-2014

GENERAL COMMENTS	This is a quite unique study that presents an impressive amount of data using plausible statistics and reaching conclusions that will greatly contribute to the debate inside and outside the medical profession about the difficult topic of how to deal with complaints

	procedures against individual doctors. Using a tool such as Survey monkey® to present a structured questionnaire plus PHQ-9 and GAD-7 is an ingenious and original idea. The information on how many questions were asked (excluding demographics) is not imparted, similarly there is no information on how much time it would take a respondent to properly answer the hundreds (?) of questions. It might be useful to include information on how much time it took the pilot of 20 doctors to answer the questionnaire. The participants' demographics and the statistical analysis of the results are thoroughly explained, particularly of how the problem of item non-response was addressed using MICE and MNAR. A number of statements in the introduction section are repeated in the discussion section: the rather combative statement that the GMC imperils its professed function of protecting patients - by generating a culture of hedging and avoidance among the medical profession-is fine at the conclusion of the discussion section but should be avoided in the introduction. The structural ambivalence of the reporting system - of how one person's heroic whistleblower in need of protection can be the other person's vexatious informer who should be named and shamed - is unfortunately never addressed in the whole manuscript. A definition of what the authors mean by "hedging and avoidance behavior" should be given in the introduction section, these terms are used in the text quite jargon-like, most likely assuming that a British readership will immediately recognize their implications. Since the problem of the effects that complaints and/or lawsuits have on individual medical practitioners is very similar worldwide and since this is the study with the largest sample of participants to date, it should be made more accessible to a readership/audience from outside the British isles. First of all, it should be explained what the GMC is, who sits on it and what the legal bases for its rulings are. Explaining that it is an apex, the tip of an iceberg and the top of a complaints pyramid will not help readers from countries where professional regulatory and disciplinary bodies are very weak and where most complaints are handled directly in regular courts of law. Similarly, it should be explained whether the BMA is a mandatory or voluntary trade body. Concerning the "internal trust investigation" it should be explained whether "trust" in this context means an organization or a virtue similar to confidence. SUI will leave many readers east of Dover mystified. "Managers responsible for complaints" make an appearance quite late in the discussion section, thus giving a vague hint that complaints procedures are not handled consistently. This should either be developed more thoroughly in the text or avoided. This study has the great merit of taking the serious problems of medical professionals developing depression, committing suicide and developing defensive medicine diagnostic and therapeutic patterns - after having been through complaints and lawsuits, from the anecdotal into area of serious statistical analysis. Once it is made more accessible to an international readership this paper should definitely be published.

\VERSION 1 – AUTHOR RESPONSE

Comments from Reviewer 1:

1. The article is too long. It requires a major edit to reduce the word count and write more concisely.

Thank-you. We have removed a significant amount of material from the introduction to shorten the manuscript and tried to reduce the word count (see track changes in manuscript). Reviewer 2 has asked for some specific information to be inserted into the manuscript (See below), so whilst we have tried to reduce the length of the manuscript we have had to introduce some sentences to respond. We hope we have found a reasonable balance.

2. Most of the statistics I can understand, but I do not understand the section on "missingness".

Thank-you for your comments on the statistics. Missingness or item non-response is a term used by statisticians and survey methodologists to refer to questions that have been left unanswered by respondents, or unrecorded data in general. A solution to this problem is "multiple imputation". This is a standard practice, well known among statisticians and well described in the literature and textbooks, albeit perhaps less well known or perceived as unintuitive among general readers. We have added a few sentences to the methods sections that will hopefully lead to an improved understanding of the procedures we followed. In short, "Missing responses were replaced by 100 plausible values, based on available responses to other questions, leading to 100 imputed datasets that represent the uncertainty about the right value to impute." Each of these datasets is analyzed separately, after which results are combined in order to obtain one overall result. This final result is compared to the results of a complete cases analysis, in which only respondents that provided complete information are considered, and the results of a multiple imputation that takes into account that people who did not provide answers to questions on depression, anxiety, hedging or avoidance may be more depressed or anxious or engaging more frequently in hedging or avoidance than respondents that did provide answers to the questions on these topics. By comparing the results for these different techniques to deal with missing data, we were able to put more confidence in our results, regardless of the missing data issue, since all results pointed towards the same conclusions. This is shown in the supplementary files.

3. In the results section of abstract and body of article, please add the rates of depression etc. for the comparison group in the text not just the RR.

We have added the rates of depression etc. as requested in the abstract and body of the article as requested.

4. Define formal and informal complaint.

We have defined formal and informal complaint in the methods section as well as definitions of SUI and GMC investigations as requested by reviewer 2.

5. Some of my work was in the reference list, but more appropriate work of mine was from 2009 and 2010 Nash L et al in the Medical Journal of Australia which has similar findings from a large cohort of 2999 doctors in Australia. The response rate in the Australian article was better, but findings similar.

Thank-you. We have now cited these more appropriate references in the discussion section of the paper.

Comments from Reviewer 2:

1.The information on how many questions were asked (excluding demographics) is not imparted, similarly there is no information on how much time it would take a respondent to properly answer the hundreds (?) of questions. It might be useful to include information on how much time it took the pilot of 20 doctors to answer the questionnaire.

Thank-you. We have now included the number of questions asked to each group of respondents. The questionnaire is now included as a supplementary file as requested by the editor. We have also included our estimates of the range of time it took clinicians piloting the questionnaire to fill in the questions.

2. A number of statements in the introduction section are repeated in the discussion section: the rather combative statement that the GMC imperils its professed function of protecting patients - by generating a culture of hedging and avoidance among the medical profession-is fine at the conclusion of the discussion section but should be avoided in the introduction.

Thank-you. This section in the introduction has now been deleted. The same point is made in the discussion in any event so this repetition has now been avoided in the paper and the word count also reduced as a result. We have deleted other parts of the discussion where we felt the issues were repeated.

3. The structural ambivalence of the reporting system - of how one person's heroic whistleblower in need of protection can be the other person's vexatious informer who should be named and shamed - is unfortunately never addressed in the whole manuscript.

Thank-you. This is an important point and we have introduced this idea now in the discussion. However we have had to balance expanding on this theme with keeping within a reasonable word count.

4. A definition of what the authors mean by "hedging and avoidance behavior" should be given in the introduction section, these terms are used in the text quite jargon-like, most likely assuming that a British readership will immediately recognize their implications.

Thank-you. We have now included definitions of "hedging and avoidance behavior" in the introduction section as requested.

5. Since the problem of the effects that complaints and/or lawsuits have on individual medical practitioners is very similar worldwide and since this is the study with the largest sample of participants to date, it should be made more accessible to a readership/audience from outside the British isles. First of all, it should be explained what the GMC is, who sits on it and what the legal bases for its rulings are. Explaining that it is an apex, the tip of an iceberg and the top of a complaints pyramid will not help readers from countries where professional regulatory and disciplinary bodies are very weak and where most complaints are handled directly in regular courts of law. Similarly, it should be explained whether the BMA is a mandatory or voluntary trade body.

Thank-you. We have now included an explanation of what the GMC is and its legal position in the introduction as requested. We have also introduced a sentence into the methods section to explain the nature of the BMA and whether it is a mandatory body.

6. Concerning the "internal trust investigation" it should be explained whether "trust" in this context means an organization or a virtue similar to confidence. SUI will leave many readers east of Dover

mystified.

Thank-you. We have adjusted the paper and dropped the word “trust” and introduced the word “hospital” to clarify that we mean an organization. We have now introduced a section in the methods to define the different investigations which we hope deals with the meaning of an “SUI”. We also hope this helps explain further the nature of the GMC as requested in point 5 above.

7. “Managers responsible for complaints” make an appearance quite late in the discussion section, thus giving a vague hint that complaints procedures are not handled consistently. This should either be developed more thoroughly in the text or avoided.

Thank-you. We have tried to clarify this paragraph in the discussion, again within the context of trying not to make the discussion too lengthy.

8. This study has the great merit of taking the serious problems of medical professionals developing depression, committing suicide and developing defensive medicine diagnostic and therapeutic patterns - after having been through complaints and lawsuits, from the anecdotal into area of serious statistical analysis. Once it is made more accessible to an international readership this paper should definitely be published.

Thank-you for your comments. We hope the changes we have made in response to your comments have made the paper more accessible.

Yours sincerely

VERSION 2 – REVIEW

REVIEWER	Louise Nash Brain and Mind Research Institute, University of Sydney, Australia
REVIEW RETURNED	01-Dec-2014

GENERAL COMMENTS	I think this is an important article and should be published.

REVIEWER	Christoph Brezinka Dpt of Gynecologic Endocrinology and Reproductive Medicine Innsbruck Medical University Anichstrasse 35 A-6020 Innsbruck Austria
REVIEW RETURNED	06-Dec-2014

GENERAL COMMENTS	This is a quite unique study that presents an impressive amount of data using plausible statistics and reaching conclusions that will greatly contribute to the debate inside and outside the medical profession about the difficult topic of how to deal with complaints procedures against individual doctors. Using a tool such as Survey monkey® to present a structured questionnaire plus PHQ-9 and GAD-7 is an ingenious and original idea. The participants’ demographics and the statistical analysis of the results are thoroughly explained, particularly of how the problem of item non-response was addressed using MICE and MNAR.

	Since the effects that complaints and/or lawsuits have on individual medical practitioners are very similar worldwide and since this is the study with the largest sample of participants to date, it is greatly appreciated that the study is quite accessible to a readership/audience from outside the British Isles. The role and function of the BMA and the GMC are described succinctly and the "complaints pyramide" is described from the lowest to the highest rung. This will be greatly appreciated by a foreign readership. This study has the great merit of taking the serious problems of medical professionals developing depression, committing suicide and developing defensive medicine diagnostic and therapeutic patterns - called "hedging and avoidance" - after having been through complaints and lawsuits, from the anecdotal into the area of serious and robust statistical analysis. The issue that the GMC through its way of handling complaints procedures and its style of dealing with doctors referred to it might actually be imperiling its own mission - to protect patients - is dealt with in sober and restrained manner in the discussion section. In the same way the structural ambivalence of any anonymous reporting system - of how one person's heroic whistleblower in need of protection can be the other person's vexatious informer who should be named and shamed - is presented as point in need of concern and further debate on all levels. There is an Italian aphorism attributed to Casanova "chi dorme non pecca" - he who sleeps doesn't sin - which in medicine can easily translate into "he who hedges and avoids will not be referred to a complaints procedure". Both hedging and avoidance are essentially human characteristics when dealing with threats of any kind and doctors are – fortunately – human and will react in similar manner. Health administrators in many countries that still have archaic medical complaints systems clogging courts of law, are looking to Britain and the GMC as a highly developed model for a rational complaints pyramid. Institutions dealing with complaints in a transparent manner and assessing doctors' fitness to practice are necessary and need support and cooperation from the medical profession. This article will greatly contribute to a debate that is necessary and unavoidable, both in Britain and in all other countries that try to have excellent medical care in a culture of responsibility, accountability, confidence and trust. Finally I have a minor quibble: What is the meaning of PubMed in the second paragraph of the participants section ?