Author’s response to reviews

Title: Adverse events recording in electronic health record systems in primary care.

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Author’s response to reviews:

Editor-in-chief

BMC Medical Informatics and Decision Making

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Dear Editor,

Thank you for your letter dated 26th of July 2017. We were pleased to hear that our manuscript was rated as potentially acceptable for publication in BMC Medical Informatics and Decision Making.

We would like to thank the reviewers for their careful and helpful reviews. Based on these comments we have made changes to the manuscript, which are detailed below. All changes are indicated in the text.

Reviewer 1:

1. The literature review appears to completely ignore any work outside the domain of healthcare. There is a considerable literature from other industries which describes both
approaches to near-miss and incident reporting, and also the problems inherent within this. This literature should be acknowledged in the conclusions and recommendations drawn.

Answer: We agree with the reviewer that developments outside the health care domain are relevant for this paper. Literature in the domain of aviation was added to the introduction and discussion.

2. The literature review also fails to acknowledge the experiences of the United Kingdom in the development of the National Reporting and Learning System, which might prove fruitful.

Answer: Literature on experiences from the UK concerning the use of electronic health record are added to the literature review. However, we regard National Incident reporting too loosely connected with our subject to warrant mentioning in the introduction. This paper is not about patient safety incidents and national incident reporting systems, but about medication adverse events in general practices and electronic health records.

3. Following from the other two points, I feel the authors fail to adequately explore the reasons for variation between practices, which the literature could inform. The design of the study, also looks to be slightly inadequate in this regard, as it is unclear as to whether the authors have controlled for potential social and demographic differences between family doctor practices, which could affect near-miss reporting.

Answer: In the discussion section we discuss a number of possible explanations for the between practice variation, among which also demographic and social factors. However, to our knowledge, this study is the first study exploring variation between practices in recording medication adverse events and the extent to which they can be explained by patient and practice level characteristics. We do acknowledge the fact that future studies should explore the reasons behind these variations further, for example using qualitative research methods. These suggestions are now more extensively described in the discussion section.

Reviewer 2:

1. The authors should provide information about the country in which their research took place in both the Abstract and the Introduction.

Answer: We added this information in both the abstract and the introduction.
2. The paper needs to have a clear research question, aims and contribution. I noted for instance that one of the aims of this paper is to identify room for improvement with regards to recording practice of medication adverse events but this is too vague. Is the aim of the study to identify problems of recording or to provide recommendations that will improve current practice and what is the literature to which it contributes and how. The paper should be clear, precise and consistent about its aims and contributions throughout.

Answer: The main aim of this study is to explore the occurrence of recorded medication adverse events in Dutch general practices whether there is variation between practices in recordings of medication adverse events, and to what extent this variation can be attributed to most important characteristics of general practices or patients. This was made more clear in the paper by removing the ‘room for improvement’ part in the abstract and title.

3. The paper needs also to acknowledge relevant literature from other industries and countries such as the UK and incorporate them in their conclusions and recommendations. Reviewer 1 provides very helpful recommendations for how to achieve this.

Answer: See response to comments of reviewer 1.

4. It would be also helpful to provide a stronger justification of the patient characteristic you include in your study. This was mentioned albeit only in brief. Perhaps more importantly the paper should provide a reflection, if not an analysis, of the results of your study.

Answer: In the methods section we give the background of why certain variables at patient level were regarded to be potentially relevant. Their effects are discussed in the results section as well as in the discussion section. The main focus, however, is on the remaining between practice variation if the individual level factors are taken into account and how this remaining variation can be explained, assuming that we were able to control for patient level factors that are commonly regarded as risk factors for medication adverse events.

5. Reviewer 1 suggests that the study is unclear about whether or not the authors controlled for potential social and demographic differences between family doctor practices, which could affect near-miss reporting.

Answer: Regarding demographic characteristics of patients we could only include age and gender. Migration background would be a very relevant additional demographic characteristic to include in future studies. Social and socio-economic differences would also be interesting. These factors are now more extensively discussed in the discussion section.
6. Further, some reflection of the role of the software in shaping doctors' recording practices - a comparison between the two software for example - would be most welcome. In your current analysis you make this point without discussing it in more depth.

Answer: Differences between software packages are indeed interesting to explore further in future studies. We discuss this briefly in the discussion section. Furthermore, we give a bit more information about the size of the differences in the methods section, where we decide to control for this factor in the actual analyses in the paper.

We hope you will find the revised manuscript acceptable for publication and we are looking forward to your reaction.

Sincerely,

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