Author's response to reviews

Title: Task-oriented evaluation of electronic medical records systems: development and validation of a questionnaire for physicians

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PDF covering letter
Responses to reviewers’ reports regarding article  
“Task-oriented evaluation of electronic medical records systems: development and validation of a questionnaire for physicians”

In the following text, the citations of the reviewers’ comments appear in italics, and our response in normal style. The initials of the reviewer precede each cited comment.

Reviewer #1, Thomas Payne (TP)

Discretionary revisions

TP: I prefer the active rather than the passive voice, throughout the paper.
We agree. The language in the manuscript has been revised in this respect.

TP: Is the questionnaire intended to measure satisfaction? If not, why not? It would be worth making this explicit.
In addition to the newly developed parts, the questionnaire contains a translated version of the EUCS, a user satisfaction scale by Doll & Torkzadeh. It has not been modified or further developed by us. That is why we have chosen not to present this part of the questionnaire more explicitly.

TP: Define electronic medical record, and the functions or tasks this questionnaire is intended to study. Results review? Note entry? Order entry?
A broad definition of the EMR has been provided in the “Background” section. Basically, we regard the EMR as the electronic version of the paper-based medical record, and that an EMR system ideally should be able to store, retrieve and process all the types of documents and information occurring in the paper-based medical record. However, no EMR system meets this goal presently, so we have chosen to define a minimum level of functionality accompanying the list of tasks (which by itself suggest the level of functionality expected from systems evaluated by the questionnaire). In our national study, we excluded all systems that did not support task 1. This meant that the system should at least offer admission reports, progress notes and discharge reports. The reason was that systems that did not support this would hardly be regarded as electronic versions of the paper-based medical record by the physicians. Of course, we regard the EMR system in its full potential to be a system of systems covering all possible information needs of health care workers (and others), including information processing, reports and communication, and using the information to facilitate the health care process in its widest respect. No such system exists as of yet in Norway.

The tasks list contains results review, note entry as well as order entry and more, hinting to what we expect an EMR system to offer in the near future. The questionnaire may be used for any EMR system that supports at least one task in the list, but should cover a lot more to make comparisons meaningful.

TP: How valid was time estimation?
In the interviews, we did not test the validity of the estimates of the time consumption of each task. We expect the estimates to be fairly course, but suggestive.
Minor compulsory Revisions
TP: Page 3 correct “that the”… These errors were created in converting this document into pdf format. I cannot find them in the word document, which is used for editing.

Reviewer #2, T Bürkle (TB)
In the following text, the citations of the reviewers’ comments appear in italics, and our response in normal style. The initials of the reviewer precede each cited comment.

TB: Study design and results seem sound, however the methods should be more thoroughly discussed in comparison with published literature.

I would appreciate if you would give a little more attention to previously published work on design and evaluation of questionnaires, e.g. …<3 articles>.. I feel that methods used by those authors to build and evaluate questionnaires should be discussed and compared to the methods you propose in order to give the methodical part of your paper more weight.

We have added a paragraph entitled “Comparing development and evaluation of this questionnaire to that of other questionnaire” in the discussion. The suggested articles were indeed useful references for this part of the discussion.

TB: There are multiple orthographic respectively semantic errors in the paper., e.g.
The mentioned errors and others have been corrected. Some were due to problems in converting the word document into pdf format.

TB: In the reviewed version it was somewhat difficult to figure out how the final layout would look like.
I’m sorry for the inconvenience. Splitting the text, figures, table and figures into separate documents makes the article easier to prepare for print, but much more difficult to read. I have made a properly integrated version for review in this resubmission.

TB: Figure 1 is readable only when in full colour and even then it is difficult to figure out the meaning.
Yes, full colour is needed to read this figure, which it will have on the web. It is a rather busy figure, mostly due to the fact that it is comprised by three complex figures. The intention was to show the real responses instead of hiding them inside a median box plot or a mean plot. The figures has been revised to make its meaning easier to figure out.

TB: The results shown in figure 5 should be described more in depth inside the paper.
We assume you mean figure 4. The results and discussion sections covering the scaling study have been updated.