Author's response to reviews

Title: Underutilization of Information and Knowledge in Everyday Medical Practice: Computer-based Solutions

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Author's response to reviews: see over
Dear editor,
we are glad that we were able to answer most of the criticisms raised by the
reviewers after our first submission and that reviewer 3 now is happy to see the
manuscript ready for publication. However, the other two reviewers raised some
concerns and we would like to address them as following:

Reviewer: Padmanabhan Ramnarayan

1. The authors have to mention this "checklist
effect" in their discussion (this bias has been well described in the literature).
A: We now included the following sentence in the discussion section:

Additionally, it is not extractable from the data to which extend a so called “checklist
effect” solely is responsible for some of the found differences. This effect describes
the phenomenon that a reminder of issues that should be part of history taking by a
checklist can improve the quality of results.

2. The conclusion of the summary states that "A combination of physician and
computer-acquired histories, in non-emergent situations, with the latter available
to the physician at the time he or she sees the patient, is a far superior method
for collecting historical data than the physician interview alone". However, this
study is not based on non-emergent patients but based on acutely ill patients,
which the authors have taken the pains to mention in their response to item 2,
where the computer system cannot be used “because medical ethics and liability
law prevent prior interview of such patients by computer”. The authors should
modify the concluder settings.
A: Now erased „in either acute or non-emergent situations“

Reviewer: Rebecca N Jerome

1. In the abstract and text of the paper, authors indicate that patients were
randomly selected but do not provide a scheme for random selection; please
clarify, or perhaps using the term "convenience sampling" may be more
appropriate for reflecting the mode of patient inclusion in the study.
A: Now: “The selection of patients was made from admissions to the Robert-Bosch-
Hospital, Stuttgart, Germany by convenience sampling.”

2. It seems that with the addition of new illustrations, the numbering of the figures
in the text and the figures themselves may be conflicting; quick review to make
these consistent.

You are right, there was a mixture in numbers, now corrected.

3. In the results section of the abstract, seems essential to note that there were
also items "captured" by the physician that were missed by the software, which
also further supports the conclusions in the abstract and paper about the likely
complementary role of the two strategies.
A: Now included in the abstract: However, physicians but not the computer reported 13
problems.
4. The authors begin to consider potential reasons why the software failed to capture some issues; it would likely further strengthen this brief mention further with a consideration of health literacy issues - i.e. patients/lay people are not trained to "think" about symptoms and diagnosis as physicians are, which thus may lead to special issues with using this kind of software.

A: Now: “However, it also must taken into account that patients are not trained in pathophysiology as physicians are and therefore by building the program the programming doctors could not forecast the answers by the patients in precise manner. However, that impairment can be extinguished by repetitive testing of the program under real world conditions.

5. on p. 16 in the discussion, authors note that the software had not been refined by clinical testing with patients, while the Methods on p.9 indicate that it was used by several 100 US outpatients; please clarify.

A: The use in the US was voluntary outside of a study environment. Now, there was a clinical study undertaken with EB-review, study protocol and following scientific standards and the results presented here are solely gained in this study environment.

6. Discretionary Revisions
- on p. 18, the authors note that the combination of software plus physician interview would be useful and that there would be little or no demand on physician time; seems to beg the question whether any of the patients reported any issues with the software in terms of time required etc?

Answer: The time needed by the patients to complete a history was different regarding to the amount of co morbidities. There was a span between 20 up to 160 minutes for that task. However, that topic was not part of the study protocol and additionally there was no systematic evaluation of the impressions of patients regarding the use of the program. Therefore, we did not include those observations in the publication. However, the majority of the patients liked to use the program.

As a closing remark, I would like to thank the reviewers for their valuable remarks and it helped to improve the manuscript. I believe that the findings of us merit publication and we would be happy to spend them with others to come into deeper discussion about the pros and cons of the use of Computer in an attempt to improve the quality of care.

Dominik Alscher