Reviewer's report

Title: Internists' perceptions of outside clinical information and health information exchange

Version: 1 Date: 28 June 2015

Reviewer: Robert S Rudin

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Major Compulsory Revisions
1) The authors do not say so, but this research is essentially a “user needs assessment.” The authors have correctly identified an important gap in the literature – most HIEs are built and implemented without first doing a user needs assessment. The authors should use that term “user needs assessment”.

2) In the introduction, the authors point out the limitations of prior studies in that talking with providers who have already implemented HIE have “developed biases.” In the field of Human-Computer Interaction, it is generally considered better (although more expensive) to talk with users who have actually used the product because users’ imagination of a technology and what the product actually does are different things. I think there are tradeoffs to both approaches. It is too simplistic and unclear to dismiss user testing as “biased” in favor if user needs assessments. We need both and they are complementary. The introduction should contain a richer discussion of the trade offs.

3) The major strength of this research is that is can inform the design of HIEs. You should major explicit design recommendations in the discussion, perhaps as a table or figure (some of the other tables or figures can probably be moved to an appendix). For example, allow key word search functionality, provide the phone number of the information source for follow up questions, and format documents for specific clinical situations.

4) Your “clinical situations” aren’t really that. Is “Knowing previous workup or treatment” a clinical situation? Is “medicine reconciliation” a clinical situation? Please make these clearer. Perhaps this is more of a clinical trigger, instead of a situation, but it is still not clear to me what is going on. These need more full descriptions.

5) Much of the information in the discuss should be in the results. There are a lot of findings brought up for the first time only in the discussion – this should not happen. Discussion should bring up new results, only discuss implications of what is in the results section. You may have to make the results section more concise.

6) Please make some comments in the discussion about the value of doing a user needs assessment before implementing an HIE, and if it is important to designing effective HIE. Don’t be shy about severely criticizing existing methods described in the literature in which HIE is implemented without doing any needs
assessment (the lack of user involvement may explain in part the low usage of most HIEs today). You should make a very strong case for the need for more upfront work in understanding the user, and designing a product for them. This methodological argument (i.e. demonstrating the value in an in-depth users needs assessment) is the most important result of your work.

Minor Essential Revisions
7) The methods should discuss the coding process. How many coders where there? How were disagreement resolved?
8) Line 160: 13.7% is not “around one fifth”. I think stick with the number and don’t try to round.
9) The flow chart is interesting and shows the complexity of the current process. There are cases where there is a pause to wait for some information – it would be better to more clearly label those cases.
10) Line 287: What exactly is this advanced functionality?
11) Line 316: Does 50% refer to the portion of physicians or portion of visits in which a transfer was involved?

Discretionary Revisions
12) It seems like providers are very optimistic about HIE but they don’t realize how clunky current technology is to support it. You may want to comment on the discrepancy between their expectations and the experience of other providers who are using HIE as shown in the literature.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests