Reviewer’s report

Title: Healthcare Information Systems: The Cognitive Challenge

Version: 2 Date: 18 Sep 2017

Reviewer: Karen Dunn Lopez

Reviewer’s report:

Background

Comment 1-

Should provide context…

Although the additional sentence related to dissatisfaction improves the narrative, this new sentence that notes usage rates >90% seems to negate the phrase, "usage of the systems has been disappointingly low"

Suggest, delete the phrase: "usage of the systems has been disappointingly low"

Comment 2-

Suggest citing primary sources

I believe U.S policy for the HITECH ACT could be cited. See web site for Links to the relevant HIT legislation

https://www.healthit.gov/policy-researchers-implementers/health-it-legislation

Comment 3-

The background is missing a strong and clear definition or explanation of macro cognitive processes

Good to see this included in decision centered design Para 2. The third paragraph seems to ramble. Perhaps the authors are trying to be responsive to reviewer's request for definitions, however the sequencing of information does not flow logically. Suggest revising this paragraph to be more concise.

Purpose

The sentence that I believe is untrue is: In our review of the research into healthcare information systems as summarized above, we found little mention of cognitive issues. "Cognitive issues" is
a broad phrase and suggesting it is only the way they think of it, is not valid. In addition, the authors response that they are only referring the to the articles they read is not convincing.

I believe this problem can be rectified by removing the sentence and merging paragraph 1 (only one sentence) and 2, starting with a transition phrase like “Notable gaps in the literature are a lack of discussion on how cognitive processing…..

Case study 1- I am still not convinced a more common or useful scenario does not exist; I leave this to the editors’ discretion.

Case Study Anesthesiology- The authors response is convincing. Sensemaking paragraph edits add value to the manuscript.

Facing the challenge

Adequately addressed by removing unsupported claims.

Work Analysis

Heading does not seem to be a good fit for the content of this section that differentiates expertise of healthcare workings and software engineers. Perhaps a quick definition of work analysis near the top will make this clearer.

Cognitive Design

Revisions addressed concerns

Case study Diabetes

Revisions addressed concerns

Conclusion

Revisions addressed concerns

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have not competing interests.
I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.