Reviewer’s report

Title: The state of research on cyberattacks against hospitals and available best practice recommendations: A scoping review

Version: 0 Date: 09 Aug 2018

Reviewer: Ying Wang

Reviewer’s report:

The research questions in this review are very interesting and the review has the potential to be very impactful. However, it requires major revision to cover more necessary databases and describe the findings in more detailed way. Currently the results are too descriptive and need to be clarified further. I offer some opportunities for improvement and clarification below:

1. Database:

PubMed is a search engine primarily accessing the MEDLINE database. It is good to clarify databases and search engines or provide both in review as the search engines used may come across the same database. Make sure to cover the following databases: MEDLINE, EMBASE and CINAHL complete and specify the search engines to access each database.

2. Regarding the categories of research areas.

The categories of network security and information security technology are confusing, as in general network security is a sub-field of information security. I understand the authors would like to separate attacks on networks and attacks focusing on end users, such as authentications. It would be better to rethink the categories to avoid confusion.

3. Results.

Overall, the references are missing when the authors pointed the specific studies. For example, lines 316-317, when they described "on specific topics such as multifactor authentication, encryption, password protection and patching systems", the papers corresponding to individual topic should be cited. The same applies to the whole Results section.

In addition, more detailed results should be emphasized. For example, the methods used to evaluate and compare health information systems should be listed or summarized (lines 301-302). Also, it will be good to know what lessons have been learned from previous attacks (lines 310-311)? Was information sharing methodologies the only one as 6 papers was found in this area? Please give details.

4. Discussion
The key findings were summarized well, but please enrich the discussion with implications in each research area. For example, lines 338, "more studies on the topic would have been expected". Please be clear what specific study is, focusing on methods or real-word setting operation?

**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 declare that I have no 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