Reviewer’s report

Title: Usability of data integration and visualization software for multidisciplinary pediatric intensive care: a human factors approach to assessing technology

Version: 0 Date: 06 May 2017

Reviewer: Hong Kang

Reviewer's report:

To identify and evaluate usability issues of the data integration software, and to determine the ease of use and potential safety impact on clinical decision making, the authors conducted a human factor study on the T3 interface with 22 participants consisting of bedside intensive care physicians, nurses, and respiratory therapists. The authors provided a detailed explanation of the experiment design and reasonable results. I have several minor concerns which may need to be further discussed before the acceptance of this paper.

1. It seems only approximately 18 (6% of 300) clinician staff used the software at the large pediatric ICU. Did the pre-survey conducted to the participants include any question regarding to the reason of low usage of this software? Was the usability issue the only reason? I suspect they might ignore the software due to other reasons. And it was not clear whether the participants were from the same institute where the T3 software was launched.

2. The usability evaluation was well designed and conducted. However, the conclusion of this study may be not innovative and significant enough. Proposing an expected prototype for data integration and visualization software or providing some practical improvement suggestions for the T3 toward an ideal system are preferred.

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

Yes

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

Yes

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.

I am able to assess the statistics

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

Acceptable

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