Reviewer’s report

Title: Interruptions and time spent on continuity of information tasks by critical care providers prior to the introduction of a critical care clinical information system: an observational study

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Reviewer: Maria Hägglund

Reviewer’s report:

The paper describes an observation study performed at two ICUs at Canadian hospitals using the WOMBAT method. Unfortunately the objectives of the paper have not been clarified and the paper lacks focus. Is the main focus of the paper interruptions, continuity of information (or both?) or is it a validation of the method used for the observations?

Major Compulsory Revisions

In general, there are some major issues with the paper. It is clear that it is part of a larger study, yet it is unclear how this paper relates to previously published results (for instance: Interruptions in workflow prior to the implementation of a Critical Care Information System (CCIS) in two intensive care settings. Mador RL, Brown M, Shaw NT, Mayes D. AMIA Annu Symp Proc. 2008 Nov 6:1037, and Impact of a critical care clinical information system on interruption rates during intensive care nurse and physician documentation tasks. Ballermann MA, Shaw NT, Arbeau KJ, Mayes DC, Noel Gibney RT, Stud Health Technol Inform. 2010;160(Pt 1):274-8 which are not referenced in the paper!).

Abstract

1. There is no clearly stated purpose or objective in the abstract; is it to present results from the observational study or to present a validation of the methods used?

2. In the results section of the abstract you also state that “interdisciplinary information sharing and communication in ICUs explain higher proportions of time spent on professional communication and documentation by HCPs, as well as more frequent interruptions…”. Compared to what?

3. The conclusions in the abstract are very vague… please rewrite so that they reflect the actual conclusions! Again, what is the actual purpose that your conclusions are related to? Is it the validation of the WOMBAT method (which has not been mentioned earlier in the abstract!), or is it to describe requirements for accurate timely information sharing and communication?

Background

4. It is unclear what the focus of this particular paper is. First you discuss
continuity of care and how CCIS could improve it. Then you discuss HOW to study work in ICU environments, and finally you introduce medication errors and state that “A clear picture of how HCPs working in ICUs manage interruptive communications is needed to better understand the relationship between interruptions and errors”. Please clarify your focus!

5. In background, 3rd paragraph you say “Furthermore, comparisons between ICUs and general hospital wards have shown there are higher rates of adverse medical events”. Where? In ICUs or general hospital wards?

6. In the Rationale section it is stated that this paper provides part of a methodological foundation for a larger mixed-methods study assessing the impact of a CCIS – so is it the METHOD that is actually the focus of the paper? In that case rewrite title, abstract etc.

7. When you refer to “our study” in the background, it is difficult to judge whether it is the larger study or the study in this paper you are referring to. Please focus on the objectives, method, results of the part presented in this paper to avoid confusion.

8. The objective section of the background needs to be rewritten. As it is now, it is a description of the method you’ve used to perform the observations, but you do not say what the objective of the study presented in this paper is. This makes it very difficult to judge the rest of the paper!

Method

9. There is a lot of focus on interruptions in the results section. In the background and title you discuss continuity of care and continuity of information, yet you have no results on HOW information is actually transferred within the ICU ward (what type of information has to be transferred? When? Between which HCPs?)

10. The work definitions presented in table 1 and 2 are problematic. They are highly detailed regarding medication (which suggests they might be useful when looking at medication errors), but they provide very little information on continuity of information – how is information actually shared within the team? In the professional communication – what do they actually discuss? Which information is it they need that they do not have access to?

11. In the results section (and later on in discussion as well), there is a lot of focus on interruptions. If this is the main focus of this paper, how does this study relate to the previously published paper Interruptions in workflow prior to the implementation of a Critical Care Information System (CCIS) in two intensive care settings In which abstract you state: As part of a longitudinal study, results of the frequency and nature of interruptions in workflow before the implementation of a CCIS will be reported. There appears to be a large overlap between these studies!

Discussion

12. There is a lot of mentioning of other work/results performed as part of your larger study in the discussion, but you never reference these results. If the results are unpublished you have to state this, but it makes it difficult for us as readers to
confirm your results. If it is published you should reference accordingly!

13. In the first paragraph of the discussion you state that “the present results demonstrate the information needs of critical care providers working to address the needs of highly complex and acute patients”. I do not agree. In fact, you show that perhaps they need information, but we knew this already, and you do not specify which information they need or where they get it from today! It is therefore impossible to judge whether the conclusions you draw that a CCIS could meets these needs is valid.

Conclusions

14. Again, I do not believe that this study actually presents the information needs of the HCPs. In fact, it is difficult to connect the objectives (which are hardly specified at all), to the methods, results, discussion and finally conclusions. The paper is fragmented and will need extensive rewriting to clarify its focus and the relationship to other publications made relating to the larger study.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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