Author's response to reviews

Title: Beyond the EPR: Complementary roles of the hospital-wide Electronic health record and Clinical department systems

Authors:

Eivind Vedvik (eivind.vedvik@gmail.com)
Aksel H Tjora (aksel.tjora@svt.ntnu.no)
Arild Faxvaag (arild.faxvaag@ntnu.no)

Version: 2 Date: 2 April 2009

Author's response to reviews: see over
To the editor of
BMC Medical Informatics and Decision Making

Vår dato: 02.04.09  Vår ref.:  Deres dato:  Deres ref.:  

Attn. Our revised manuscript "Beyond the EHR: Complementary roles of the hospital-wide electronic health record and clinical departmental systems".

We greatly appreciate the constructive critique and feedback from the reviewers. Here is our point-by-point response to their concerns:

Reviewer Rebecca N Jerome:

"Introduction: The introduction currently provides a good summary of the authors’ related work on this topic and would further benefit from the addition of a tighter connection with other investigators’ previous research on the topic, to complement the authors’ work and set the stage for potential generalizability of the current work. The study objectives may also be strengthened through a clearer statement of anticipated contribution to the field."

Our response: We have 1) re-worked the introduction, 2) aligned our research with that of others who have done research on methods for integration of smaller systems and 3) re-phrased the objectives of the study.

"Methods etc: The authors provide a good amount of detail regarding their approach to the interviews. The organization of this section may be improved through the addition of subheadings to aid the reader in processing the different subsections, e.g. setting, selection of systems, selection of informants. The discussion of selection of informants would benefit from elaboration regarding how these individuals were selected, including the authors’ judgment regarding how “well” they represented their individual departments/work roles. It also may be useful to have some sense of variability among these clinicians. E.g. were they all doctors, were nurses included, etc. The limitations would be more appropriately placed in the discussion section, rather than the methods. Would the reader and other researchers benefit from including a list of the qualitative codes as a supplemental document with this manuscript?"
Our response: 1) We have added subheadings, 2) reformulated the section on the selection of informants, 3) added more details about the informants and 4) placed the limitations in the discussion section. We also could have presented a list of the qualitative codes. However, to do so, we would have to translate these from Norwegian to English. We wish not to because we are in doubt whether this would further improve the quality of the manuscript.

Results: The illustrative quotes throughout are very useful in fleshing out the different themes drawn from the interviews. To broaden the potential generalizability of these results, it would be useful to include a clearer comparison/contrast of data extracted and synthesized from the interviews regarding differences between user perceptions of the CDS vs. HER, to give a stronger sense of why the CDS’s were preferred for certain tasks.

Our response: 1) Parts of the results section has been re-written.

"Discussion: The discussion section does well with commenting on results of the current study; the import of this section would be further improved through a more detailed consideration of related research – how do the current results fit in or contrast with existing thought in this area? How might these results make developers and managers better at designing and implementing EHRs? Do the authors have any sense for how adding to the current EHR may help convert departments from their CDSs? The reader is currently left wondering about how these results might be generalizable, and how the themes revealed by the current analysis might inform future research and practice in this area. With these additions, the paper is likely to be particularly interesting to researchers and practitioners involved in design and implementation projects.”

Our response: 1) We have extended the discussion about the possible implications for EPR system requirements engineering and EPR system development.

Reviewer Padmanabhan Ramnarayan

"While the authors accept the limitation that the users interviewed were individuals with high degrees of motivation and involvement in the systems, therefore biased, the study methodology to include only 1 subject per CDS needs to be elaborated further. In addition, the limitations section is better placed in the discussion section. Was subject selection entirely random, voluntary or a convenience sample? Why did the authors not interview 2-3 different grades of users? Why did they not interview the IT department, who may have a very different view of the problems of having the CDS? ”

Our response: 1) We have elaborated more thoroughly on how the informants were selected and the strengths and weaknesses of our approach. 2) We have not interviewed the IT-department because they only see the systems from a systems administrative perspective. To explore CDSs from this perspective — in our opinion — is a different study.

'The implications of the authors' work is clear but the authors have not
explained what steps can be taken to integrate CDS within EHRs. Do they propose a service-oriented architecture, disparate systems, or a single EHR that can somehow cater to departments as and when they need department-level functionality? Standards that can aid in integration are also important - XML based and/or HL-7 based.

**Our response:** 1) We do not purport to explain how CDSs can be integrated with EPRs. The manuscript highlights the multifaceted use of patent data at a clinical department and how the systems that contain these data have evolved and are in use. By this we a) hope to contribute to the understanding of why such systems still are in use. and b) perhaps contribute to the field of EPR system requirements engineering.

We hope that the manuscript now can be accepted for publication in BMC Medical Informatics and Decision Making.

On behalf of the authors,

Arild Faxvaag, M.D, PhD
Associate professor
Norwegian centre for electronic patient records research
Faculty of medicine
NTNU
Norway