Author's response to reviews

Title: Adoption of computerized provider order entry systems: An organization-wide study based on diffusion of innovations theory

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Author's response to reviews: see over
Dear Editor-in-Chief

Enclosed is the revised manuscript ‘Adoption of computerized provider order entry systems: An organization-wide study based on diffusion of innovations theory’ for further review and possible publication in BMC Medical Informatics and Decision Making. Thank you for your incisive comments on the previous versions of the paper and for offering us the possibility of resubmission with specific responses to each and every one of the points made by the Reviewer. We find that we have been able to improve the quality of the manuscript even further. Please find our comments to the Reviewer below.

We look forward to any additional guidance regarding this manuscript, in content or format.

For the authors,

Linköping, November 2009

Sincerely,

Yours,

Bahlol Rahimi

Bahlol Rahimi PhD.
Linköping University, Sweden, and
Urmia University, Iran,

Enclosure

Reviewer Andrew Georgiou

Reviewer comment The authors report that non-responders did not differ from responders with regard to age, sex and occupation. This is a key point in survey analysis, because it is important to be confident that the results were not a consequence of one or other characteristic (eg, age) of the study sample which was not prevalent in the study population. I believe the point is important enough to require the authors to provide the figures to confirm.

Authors’ response: Thank you! We fully agree that the non-response is a possible source for bias in the present study. We therefore have made our uttermost to rule out this possibility. However, due to integrity issues, we could not access individual-level data from non-responders in the present study. On inspection of aggregate-level data, nevertheless, we find no remarkable bias with regard to age, sex or occupation. There only was a slightly lower proportion of responders in the age group 30-39 years, but
otherwise the responders were evenly distributed over the different categories, The problem of non-response is clearly mentioned in the discussion.

**Reviewer comment** My other major worry regards workplace locations, time of CPOE use and number of orders in a day. The authors say that they have examined these factors, which is good, but their examination of these factors is not reflected in the paper. For instance, when I look at the figures and the table of characteristics, I am still left with the concern that the significant difference in the number of primary care physicians to primary care nurses may have influenced the results. If the authors have examined these factors and are reasonably confident that this did not have a major influence on the results or their interpretation of the results then they should report it in the paper. Otherwise they should consider this as a potential (or actual) limitation of their study.

**Authors´ response:** Thank you also for this important observation. The proportion of responses from primary care physicians (24%) and nurses (13% (7+6%)) correspond to their actual numbers. It has to be remembered that that while all physicians (with a few exceptions) were involved in the CPOE introduction program (and thus this study), only the coordinating nurse at each clinic or primary care centre was included. This fact has also been made explicit in the revised version of the manuscript.

**Minor essential revisions:**

**Reviewer comment** In the paragraph under Conclusions, the sentence which talks about the “the limitations of ‘traditional’ means” is unclear.

**Authors´ response:** The sentence has been revised according to the point made by the reviewer.

**Reviewer comment** The opening sentence on page 4 defines CPOE systems by addressing their role in automating medication ordering. But CPOE can involve more than just medication, eg pathology, imaging, transport, diet etc.

**Authors´ response:** The sentence has been revised according to the point made by the reviewer.

**Reviewer comment** The sentence that currently appears on the top of page 9 regarding “drug of choice” is not clear.

**Authors´ response:** The sentence has been revised according to the point made by the reviewer.

**Reviewer comment** I am not sure what “physicians were more agreed” is supposed to mean.

**Authors´ response:** The sentence has been revised to become more understandable.

**Reviewer comment** I am also unclear about the meaning of the sentence which appears on the top of page 23, “CPOE systems are introduced as an expansion for the present limitations in ‘traditional’ practice.”

**Authors´ response:** The sentence has been revised to become more understandable.