Author's response to reviews

Title: The Effectiveness of Computerized Order Entry at Reducing Preventable Adverse Drug Events and Medication Errors in Hospital Settings: A Systematic Review and Meta-Analysis

Authors:

Teryl K Nuckols (tnuckols@mednet.ucla.edu)
Crystal Smith-Spangler (smithspangler@gmail.com)
Sally C Morton (scmorton@pitt.edu)
Steven M Asch (steven.asch@va.gov)
Vaspaan M Patel (vaspaanmpatel@gmail.com)
Laura J Anderson (anderson.laurajane@gmail.com)
Emily L Deichsel (edeichsel@gmail.com)
Paul G Shekelle (shekelle@rand.org)

Version: 5  Date: 23 April 2014

Author's response to reviews: see over
April 22, 2014

Dear Systematic Reviews Editorial Team,

Thank you very much for the opportunity to revise the attached manuscript, “The Effectiveness of Computerized Order Entry at Reducing Preventable Adverse Drug Events and Medication Errors in Hospital Settings: A Systematic Review and Meta-Analysis.”

Below you will find point-by-point responses to reviewer comments.

Please let us know if we may provide additional information of potential use.

Sincerely,

Teryl K. Nuckols, MD, MSHS
Reviewer's report
Title: The Effectiveness of Computerized Order Entry at Reducing Preventable Adverse Drug Events and Medication Errors in Hospital Settings: A Systematic Review and Meta-Analysis
Version: 4 Date: 24 March 2014
Reviewer: Jennifer R Bellis

Reviewer's report:

I am satisfied that the authors have addressed my comments in their responses and through modifications to the manuscript. It is now clearer that the interpretation of the results and the conclusions of the review were constrained by the varying definitions of error and by the quality of error type and harm reporting in the individual studies.

Response: No changes to paper requested.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests: No competing interests.
Reviewer's report
Title: The Effectiveness of Computerized Order Entry at Reducing Preventable Adverse Drug Events and Medication Errors in Hospital Settings: A Systematic Review and Meta-Analysis
Version: 4
Date: 14 April 2014
Reviewer: Elizabeth Conroy

Reviewer's report:
Minor Essential Revisions

**ABSTRACT**

Background - Anagrams [HITECH] should be introduced with their full title – especially in the abstract.

**Response:** We have spelled out the term in the abstract and text.

Conclusions – Limitations have been added although as more of an afterthought and does not flow with the rest of the text. Possibly because the word count is tight? I suggest this is reviewed and refined.

**Response:** We have refined the conclusions, particularly the last sentence, to improve the flow.

Methods – Data extraction and quality assessment – ‘When information about the system developer and CDSS were missing from the published article, we contacted original authors.’ Can you add in to the results how many authors were contacted and the outcome of this? This element of the design does not appear to be discussed in the results.

**Response:** We have added this information to the Results section as well as Table 1.

Methods - Study Selection - First paragraph - ‘We excluded studies that did not describe methods for detecting medication events, or that used incident reporting alone, because it detects only a small percentage detects 0.2%-6% of events’. I don’t think this is a reason. There should be a stronger argument for excluding that is identified before you assess the numbers of events. These studies could be potentially relevant. In the conclusions you have added a stronger justification; I think this should be added here.

**Response:** We now clarify in the methods section that excluding studies that do not report event detection methods or that used incident reporting were minimum criteria for study quality.

Methods – Data extraction and quality assessment – Third paragraph – Not clear how CDSS sophistication is defined. The levels of basic, moderate and
advanced seem quite arbitrary. Was this determined by original authors or following some sort of definition? This should be described.

Response: We used the classification system previously described by Wright et al. (citation #78). The definitions of each category are included in a footnote to Table 1. We have now added a mention of where to find the definitions to the Methods section.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests: I declare that I have no competing interests.