Reviewer’s report

Title: Participation in EHR Based Simulation Improves Recognition of Patient Safety Issues

Version: 5 Date: 10 July 2014

Reviewer: Stephen P Malkoski

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Summary
Stephenson and colleagues describe how using a high fidelity case simulation improves the ability of trainees to use the electronic medical record (EMR) and detect common patient safety errors.

Overall the paper is well presented, well organized, and well written with only a few minor compulsory revisions that should be addressed prior to publication.

1. Introduction Line 125—Authors state that the trainee identification of errors is independent of training level. Is it related to previous experience with either the tested EMR or any EMR experience?

2. Results: For readability purposes, the authors should consider renaming the cases something other than case 1 and case 2 (e.g. “sepsis” and “ARDS”). This would particularly help with paragraphs on pages 10-11 which are somewhat difficult to follow.

3. Results Figures 2-3 are somewhat redundant and can probably be combined.

4. Discussion Line 162: Do you have data as a function of time between testing sessions (e.g. did subjects tested a week apart demonstrate more or less improvement compared to subjects whose second test was further from the first). If more improvement was seen at shorter intervals, it might suggest a larger effect of the simulation itself whereas if more improvement was seen with longer intervals, this might suggest increasing familiarity with the EMR over time.

5. Discussion Lines 285-287: This sentence needs to be clarified and only makes sense if the reader is familiar with the competencies required by the ACGME.

6. Discussion Lines 304-305: The authors acknowledge that they cannot distinguish acquired EHR skill from improved cognition and this is a key limitation to the study. If the goal is to improve patient safety it may not matter, however, is there a way to correct for this by “normalizing” for cognition using board scores (though this does not test the same things as the case based simulations). Alternatively, is there a way to correct for EMR utilization or exposure both at baseline testing and with repeat testing as mentioned above?

7. Discussion Lines 319-320: Is the inability to recognize specific errors or types
of errors related to data presentation? While this may be beyond the scope of the current manuscript, perhaps the authors could comment on this.

**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