Reviewer's report

**Title:** Comparison of Alphabetical versus Categorical Display Format for Medication Order Entry in a Simulated Touch Screen Anesthesia Information Management System: An Experiment in Clinician-Computer Interaction in Anesthesia

**Version:** 4  **Date:** 10 April 2012

**Reviewer:** Jeffrey Green

**Reviewer's report:**

Major compulsory revisions
None

Minor essential revisions
1. At the top of page 5 change the word “preferable.” User preference was not addressed in this study. Suggest using speed and accuracy instead.

2. On page 10 in the first paragraph change “nonetheless touch screen as being used more often.” Rewording will help with the readability.

3. Please address the question of a selection bias in subject selection. How were anesthesia providers approached to participate? Who selected them? Were they isolated while participating or did the providers participate in groups?

4. The Y axis for the bar graph should have a label indicating “number of drug entries.”

Discretionary revisions
1. The authors should address the colors of the labels for medications. The colors are an important visual clue that may be a confounding variable in the study, even though both methods used colored labels. It would also be good to mention that the colors selected are standard for anesthesia medications.

2. The study would be strengthened by addressing the reproducibility of the results to keyboard/mouse entry rather than touch screen. Although the touch screen format is gaining popularity among medical devices, most AIMS are not touch screen. Therefore this limits the applicability of the results.

3. Please comment on using the same sequence of drugs between trials in each format. Could this have contributed to the learning effect? The use of the training task involving countries was a creative and effective tool.

4. Is the question posed by the authors well defined? Yes

5. Are the methods appropriate and well described? Yes, except for subject selection

6. Are the data sound? Yes
7. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
8. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
9. Are limitations of the work clearly stated? Yes
10. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
11. Do the title and abstract accurately convey what has been found? Yes
12. Is the writing acceptable? Yes
13. In a keyboard entry AIMS, it's not uncommon for users to search for drugs using a fuzzy search function. For example, in a drug entry dialog, the user would type “atr” and atropine would pop up. It would strengthen the work to compare the alphabetical categories method to the fuzzy search method to finding drugs. In the editors institution, a combination of categorical tabs and fuzzy search leads to clinically acceptable drug entry in a combination touch screen keyboard AIMS.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I am an advisory board member for Draeger Medical, Inc. for the AIMS product Innovian. I do not receive any compensation for this position. I do not believe this position would have any competing influence on this manuscript.