Reviewer's report

Title: Assessment of the potential impact of a reminder system on the reduction of diagnostic errors: an experimental study

Version: 1 Date: 1 November 2005

Reviewer: Melissa J Margolis

Reviewer's report:

General

Overall, I enjoyed reading this important paper and I expect that it will be published and well received in the medical community. It is an innovative project that seems to have dealt well with numerous technical and technological challenges, and it has the potential to add a great deal to the field by providing a method that potentially can yield non-trivial improvements in diagnostic accuracy. As a consumer of medical services as most of us currently are or eventually will be, it is good to know that work such as this is being done!

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

In my review of the analytic section, I was surprised at the absence of an analysis of variance to assess mean differences in DEOs pre and post across all of the subject groups. This would provide a much more robust assessment of the findings and is a single test that can do what the authors did with multiple paired t-tests and a one-way anova. This method would allow for the assessment of the pre and post differences overall, group differences overall, and interaction effects of pre and post differences across groups. There is no question in my mind that the paper should be published, but I think that a more detailed statistical review should occur first so that the paper can be the best that it can be.

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Discretionary Revisions (which the author can choose to ignore)

In my opinion, the paper would be much stronger and of broader interest if the authors would mention in their discussion: 1) more specific about their vision(s) of how a system such as this might be implemented in a practice setting (i.e., what are the logistics involved in using this system in actual medical practice? When and how would doctors input their information into the system? Would they leave the room and go back after they have more information? Would they have a computer in the room with them so that they could follow up with the patient after receiving feedback?); and 2) that there are clear advantages for use of this system in training, what those advantages are, and how the system might be used in this context.

What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests