Reviewer’s report

Title: The effect of electronic health records adoption on patient visit volume at an academic ophthalmology department

Version: 0 Date: 12 Dec 2015

Reviewer: Nawanan Theera-Ampornpunt

Reviewer’s report:

This paper is much stronger after the revision by authors. In particular, the authors noted the absence of organizational changes that could have confounded the findings except EHR adoption and location change. The authors added an extensive discussion on potential confounding and why they believed this did not explain the findings, while clearly acknowledging study limitations. This greatly strengthen the paper.

They also added that there was no decrease in patient volume among the Department of Internal Medicine physicians who moved to the same new location but did not adopt EHRs. While they may not serve as ideal controls given the potential differences in practice styles and patient demands between two specialties, they still provide a contrast that strengthen the claim that EHRs led to decreased patient volumes. I welcome these revisions.

Authors addressed my remark on the statistical analysis regarding the potential misinterpretation of F-tests as reported. They added a paired t-test for each year after EHR adoption and the year before implementation.

Responding to my comments, the authors also revised conclusion from one that implies causation between EHR adoption and decreased patient volume, a major limitation of this study given the location change and other potential confounding, to a more appropriate "association". However, the abstract which states that "Adoption of EHR significantly reduced the number of patient visits..." still conveys the message beyond what this observational study can claim. I suggest toning it down, such as "Adoption of EHRs most likely led to significant reduction in the number of patient visits..."

The authors also briefly noted that further studies in various ophthalmology settings are needed, although I wished to see a remark that not only quantitative studies but also qualitative studies such as focus groups, in-depth interviews, or ethnography are needed to understand more about EHR adoption's impact on ophthalmologists' practice.

One point just added by the authors that hit me was the fact that these ophthalmologists weren't involved in the decision-making at the planning phase of EHR adoption. The lack of user involvement is one key pitfall in EHR adoption change management, and this ignorance by healthcare administrators still exists today in all parts of the world. By not highlighting this issue of "change management", the authors missed an opportunity to advocate for better user involvement and change management practices in EHR adoption. I would hope to see a sentence or two in the discussion or conclusions on change management, if possible.
There are a few minor language issues:

1. Use of the term "EHR" in singular form should be changed to either "EHRs" or when referred to the information system itself, "an EHR system" or "the EHR system". Consider correcting following occurrences of "EHR"

   - Page 2, line 37 (conclusions in the abstract): Change "Adoption of EHR" to "Adoption of EHRs"

   - Page 3, line 52 (second paragraph of "Introduction" section): Change "EHR" to "EHRs"

   - Page 3, line 54 (second paragraph of "Introduction" section): Change "EHR was partially implemented or was being implemented" to "EHRs were partially implemented or were being implemented"

   - Page 3, line 55 (second paragraph of "Introduction" section): Change "EHR" to "EHRs"

   - Page 4, line 79 (first paragraph of "Methods" section): Change "EHR was instituted..." to "The EHR system was instituted..."

   - Page 13, line 271: Change "Department's transition to EHR" to "Department's transition to EHRs"

   - Page 13, line 278 (Conclusions): Change "Adoption of EHR" to "Adoption of EHRs"

2. Sometimes, the authors use the term "data" as a plural noun and sometimes as a singular noun. I suggest changing the following occurrences to be consistent:

   - Page 10, line 207: change "no subjective data is available" to "no subjective data are available"

   - Page 12, line 248: change "and there is no data on how many..." to "and there are no data on how many"

3. On page 11, line 229: change "as well talking" to "as well as talking"

4. If possible, adding the missing leading zeroes in p-values and other decimals is preferable. For example, change "P &gt;= .226" to "P &gt;= 0.226" and check if p (for reporting p-value findings) should be in lowercase. Also note on page 7, line 139, the missing space after the equal sign in p-value reporting in the parentheses.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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