Author's response to reviews

Title: Implementing change in primary care practices using electronic medical records: a conceptual framework

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Author's response to reviews: see over
To the Implementation Science Editorial Team

Thank you for the opportunity to respond and resubmit my revised manuscript: Implementing change in primary care practices using electronic medical records: a conceptual framework.

We have carefully considered the comments of the reviewers to improve this manuscript. The major compulsory revisions, and minor essential revisions been reviewed and the manuscript has been modified to address the concerns that have been raised. Our responses to the comments are indicated in italics.

Reviewer: Jennifer Leeman

Major Compulsory Revisions:

Sample: The authors indicate that they purposively sampled practices. What guided the purposeful sampling? What were the general characteristics of the sites included in the study? Also, provide information on what disciplines and how many were interviewed at each site.

*Table 1 has been added to indicate the participants and the practice demographics. More information was also added to the Sample and Sampling Strategy section to explain more detail regarding the purposive sampling used.*

Data Collection/Analysis: Given that Microsystems in Healthcare was your guiding framework, it would be helpful to readers if you presented the framework earlier in the article. Further, you indicate that your initial codes were developed using empiric sources from the literature about change. It would help to provide the reader with some sense of the initial framework you applied to coding the data.

*The Microsystems framework was added to the Methods section. Table 3 was also added to display the codes used in the qualitative analysis.*

Results: Make the case more clearly for your findings as a framework as opposed to a list. Figure 1 provides some sense of how the items are interrelated, but this could be more fully developed in the text.

*Figure 4 was added to compare this research to two other papers describing factors and concepts seen within primary care practice change. More detail was added to the results section to provide additional narratives and analysis.*

Minor Essential Revisions:

Results: The results section includes the results of the interviews, but does not include observation data. Also, all examples pertain to successful sites. The presentation of the data does not capture the potential richness of your sample which included high,
moderate and low performing sites. Did your analysis include any comparisons between what you found across sites with different levels of performance and how could you present that.

Some observation data was added in the Results, and a richer description of what the observation data included was described in Methods. All of the practices in the intervention group did achieve change. We deleted Table 2 from the initial submission, as this may have confused readers. Additionally, explanations were presented in the first paragraph of the Discussion.

Discussion: The discussion addresses challenges in implementing EMRs which distracts. The study’s goal was to look at implementation of clinical guidelines and EMRs were just one strategy used to implement the guidelines. The discussion section could benefit from being more closely organized around the findings.

This research took place in a primary care practice based research network (PPRNet) of members who all used the same EMR system (Practice Partner). The EMR was a critically important component to the entire process of change. The core variable found within the qualitative findings was “Assimilating the EMR to maximize clinical effectiveness”. This reviewer and the second reviewer differed on this point, and a decision was made to frame the revision in the context of the EMR, thus the change in the title of the manuscript reflects this change.

When you reference the title of your framework in the abstract, make this clear this is the framework you developed in your study.

The abstract was modified to reflect this concern in the first sentence of Results in the abstract. The title was deleted.

Reviewer: Elizabeth Yano

Major Compulsory Revisions:

1. Delineate the concepts in the proposed conceptual framework with those of the other related frameworks (eg Solberg, Cohen) and/or theoretical framework (eg complexity science). Consider inclusion of a summary diagram or table across these other frameworks to help readers discern what is unique about this framework.

Table 4 provides this comparison between Solberg, Cohen and this research. Additional detail is provided within the Discussion section to address this more specifically.

2. The area of particular contribution may chiefly be in the centrality of the assimilation of the electronic medical record into process improvement or change efforts in primary care practices. In fact, it is not clear that the framework would
be applicable to practices without an EMR. The authors should consider whether the framework should be presented more in that context than general process improvement.

The title was changed to reflect the applicability of the process of change to primary care practices using electronic medical records.

3. Add quotes from medium to low performing sites that help frame concepts and quotes from high performing sites. Incorporate exploration of the degree to which these concepts may be key ingredients for change and how medium to low performing sites corroborate concepts from high performing sites.

The discussion section addresses that many of the characteristics regarding the process of change found in the lower performing practices were substantiated in the interviews. Change occurred more slowly in some of these practices. Additional narratives from medium and lower performing practices were added to the Results.

Minor Essential Revisions:

1. The authors should add to their mention of how well the framework may apply to non-PPRNet practices by describing implications for non-family medicine practice, large and small practices.

This is a topic for future investigation.

2. Add information about the 8 practices in relation to the 20 from which they were sampled. Include information of the nature of these practices (urban/rural, size, sampling) to help readers place them in organizational context.

Table 1 addresses the practice demographics.

3. Include a list of the preventive practices that were the focus of the intervention, clarifying how these concepts may relate to the processes of improvement surrounding their performance.

This was previously published in the Annals of Internal Medicine Sept 2004, and referenced within. Due to respect for the length of this manuscript, this was not added, but reinforced within the manuscript.

4. Clarify some of the methodological issues of how the interview tool was developed.

This was added into the Instruments section of the manuscript.

5. Include definitions for terms from the other conceptual frameworks and change models.
Definitions were added to the manuscript to clarify the meanings of these terms.

6. Make table 2 more self documenting (see above).

Table 2 was deleted, as it appeared to confuse readers.

7. Clarify relationships and interactions and importance of different relationships suggested in Figure 1.

Table 4 compares the framework’s concepts with others, and the discussion section addresses the concepts in some different ways. Hopefully, this addresses what was intended.