Author's response to reviews

Title: Health information technology capacity at federally qualified health centers: a mechanism for improving quality of care

Authors:

Jemima A. Frimpong (jf2584@columbia.edu)
Bradford Jackson (bjackson@live.unthsc.edu)
LaShonda M. Stewart (lms10@siu.edu)
Karan P. Singh (kpsingh@uab.edu)
Patrick A. Rivers (privers@siu.edu)
Sejong Bae (bsejong@uab.edu)

Version: 6 Date: 2 January 2013

Author's response to reviews: see over
Dear Editor,

Thank you very much for the opportunity to revise our paper. We have thoroughly revised the paper based on feedback from the reviewers and the editorial points in your communication.

Our responses to the reviewers’ comments and editorial points appear in italic and present a point-by-point description of changes made to the paper. We have also systematically addressed the “typographical errors and organizational flaw” that may have weakened the quality of the paper. We believe our paper is much improved thanks to the detailed reviews that were provided.

If further information or materials are required, please contact me through the following address:

Jemima A. Frimpong, Ph.D., MPH
Health Policy and Management Department
Mailman School of Public Health
Columbia University
600 West 168th Street, Room 605
New York, New York 10032
Tel: 212-304-5208

Alternatively, you can reach me via email: jf2584@columbia.edu

Thank you in advance for the opportunity to revise and resubmit our manuscript.

We look forward to your assessment of the revised manuscript.

Sincerely,

Jemima A. Frimpong
Referee 1

Major compulsory revisions.

Introduction

The introduction still has some features that does not help move the read to the authors' goals. For example, paragraph 3 contains at least 5 different topics: the rate of HIT adoption, the rate of HIT use in FQHCs (no citation), what FQHCs do, lagging of HIT in FQHCs, and the lagging of HIT in hospitals that serve the indigent. The authors have added more about FQHCs, but they have not really put in an order that is logical or helps the reader. The focus of the intro should be FQHCs. The other settings are a distraction unless directly compared to the experiences of FQHCs.

Thank you for your review of our revised paper. We greatly appreciate your comments and have made changes to the introduction section of the paper in response to your comments.

The important information presented in the introduction has been reordered to make sure it is logical. This change to the paper ensures that the introduction is appropriately framed and effectively presents the focus of the paper to the reader. Additionally, we have removed references to studies from other settings (i.e., hospitals) that are not directly related to FQHCs. We believe that the changes made to the introduction section; especially in regards to paragraph three, has brought significant focus to the stated objectives and the paper as a whole.

The inconsistent use of abbreviations (and misspellings) is quite pronounced.

The paper has been thoroughly revised to make certain that abbreviations are used consistently throughout the paper. We have also corrected misspellings and other typographical errors in the paper.

Methods

Outcome measures.

The first sentence should be plural for the list of measures.

The first sentence of the “outcome measures” section has been corrected. It now reads: “The outcome measures of interest are quality of care, measured by receipt of discharge summary, frequency of patients receiving reminders/notifications for preventive care/follow-up care, and timely appointment for specialty care.”

The information requested in the first review is present, but not in an easy to read format. They almost read like bullet points and the actual collapsing of the categories for analysis purposes is separated into the following paragraph.

Additionally, the importance of the measures should really not be in the methods section. They should be in the background as justification for the study.
We agree with your comments and have moved the justification for the outcome measures from the methods section of the paper to the background section. The last paragraph of the background section now includes the following: “The measure of HIT capacity used in the paper is relevant in that it is informed by functionalities required for meaningful use. Specifically, the measure was operationalized based on correspondence with the HITECH meaningful use objectives.[23] Meaningful use of HIT is expected to improve quality, safety, and the effectiveness of patient-centered care. Specifically, the measures for this study include use of electronic health records for exchange of information on quality of care, electronic prescriptions, and clinical decision-support.[23] Lastly, the outcome measures examined in this study are important in that they have been significantly associated with increased adherence to treatment, utilization of health services, receipt of preventive services, and treatment outcomes.[24] [25, 26]

Primary explanatory variable

The authors state as their goal (in the introduction) "Therefore, this study examined the HIT capacity of FQHCs to determine associations with improved quality of care." Consistent with that goal, the outcomes listed are the process measures. Consistent with that goal, the primary explanatory variable is the HIT capacity level. But the first analysis uses the IV as the DV. The prior view noted: Examining the structural factors doesn't add a lot to the paper. If the authors really want that analysis in, they need to set the reader up better and clearly say they are undertaking 2 different analyses. Their goal (which could be better formulated) does not reflect the analyses they undertake. Stating to goals would work or an additional first paragraph under the methods stating, we undertook two analyses....

We have clarified that the goals of the paper are twofold. The last paragraph of the background section now includes the following: The goals of the study are twofold: 1) identify factors associated with higher HIT capacity at FQHCs, and 2) examine associations between HIT capacity and quality of care in federally qualified health centers. We define HIT capacity by the functionalities of the health information system available in FQHCs.

I am also still confused by the IV construction. There seem to be two different criteria. The extent of EHR functions and then the HIT list. So if a site had 15 HIT functions but had fewer than 4 of the EHR ones they would be low? As would a site that had 0 HIT functions and 0 EHR functions? That seems to be a strange grouping.

We have addressed the confusion in the text regarding the construction of the IV. The text now reads as: “Those FQHCs that had fewer than four of seven “minimum required” or “must-have” functionalities for a HIT system (see table 1) were classified as ‘Low’. Health centers that had four of the seven “minimum required” and at least one to six functionalities from the remaining items (for a total between 5 and 10 items from the full list) were categorized as ‘Medium’. Finally, health centers that had at least four ”minimum-required” functionalities and a total between 10 and 16 functionalities were considered as having a ‘High’ HIT capacity. The “Low” category was based exclusively on the minimum set of functionalities. All “minimum requirement” items were nested within the full list of items. That is, the “medium” and “high” categories were measured using the full list of 16 functionalities. The main difference between
the “minimum required” functionalities and the other items is the lack of certain decision-support functionalities for providers (i.e., prompts) and or tracking of tests.”

This goes to the broader issue of the authors bouncing back and forth between EHRs and HIT. Think if they picked one and stuck with it throughout the entire paper it would be useful.

We appreciate your recommendation and have revised the paper to ensure that HIT is constantly used throughout the paper. The use of HIT is appropriate considering the focus of the paper. Any reference to electronic health records is specific to the context in which it is used and distinguishable from the use of HIT as the focus of the paper.

Minor

Limitations

There is a sentence now about selection bias, but it is opaque.

The limitations section of the paper has been revised to make sure that the specified limitations of the data and analysis are clear.

Tables. The authors include footnotes for p value flags in Table 3 but don't use them.

We have made changes to Table 3 to align the p value flags in the footnotes with those used in the table.

Spelling, capitalization, and hanging colon issues.

We have conducted a close reading of the paper and have corrected all spelling, punctuation, and grammatical errors.
Referee 2

This paper is much improved. I recommend accepting it, but suggest that the authors and/or journal editing staff conduct a round of careful edits to remove some remaining typos and improve readability. Other than that, this is a solid contribution to the literature.

Thank you very much for highlighting our paper as an important addition to the literature. We greatly appreciate your positive response.

We revised the paper in accordance with your comments. In particular, we conducted a careful and close reading of the paper. We ensured that all typos and grammatical error were appropriately corrected. We believe that as a result of the changes, the readability of the paper has greatly improved.