Author's response to reviews

Title: A web-based laboratory information system to improve quality of care of tuberculosis patients in Peru: functional requirements, implementation and usage statistics

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Author's response to reviews: see over
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Mona Jazayeri
Assistant editor
BMC-series journals

Dear Mrs. Jazayeri:

We are submitting the revised manuscript 5477438001493124 – “A web-based laboratory information system to improve quality of care of tuberculosis patients in Peru: functional requirements, implementation and usage statistics.” Below we are also including a point-by-point response to the comments of both reviewers. In the case of reviewer Thomas Shinnick we answered his thoughtful revisions and feel that these changes enhance the manuscript. However, we do not feel his comments explain the reasons for his decision to reject this manuscript. Therefore, though we have done our best to answer his points, it was not clear if we have understood or been able to answer the reasons for his final decision.

**Reviewer 1: Terry John J Hannan**

1. I felt that Tables 1 and 2 in the Supplementary file may be somewhat redundant and do not add a great deal to the well written content of the article and could more than likely be omitted.

   **Tables 1 and 2 have been omitted from the supplementary file**

2. The "Figure 1 e-Chasqui patient page" should be included as it demonstrates how the simplicity of screen displays can be in providing computerized decision support and also shows the value of Summarisation as a communication tool for health care information.

   **Figure 1 e-Chasqui patient page has been moved into the article as Figure 2 e-Chasqui patient page and referenced in the System Design section under Patient Care. The additional file has been eliminated since all of the material within has either been removed or moved to the article.**

**Reviewer 2: Thomas Shinnick**

1. The manuscript could be considerably strengthened by some information on how the authors were able to solve some of the problems they encountered. For example, what was the approach to ensure that minor misspellings of a patients name did not result in duplicate records?
**The following paragraph was added to the Laboratories section under Implementation.
“For data entry several simple design tools were implemented and found to be valuable. First, for ease of data entry each data field can be accessed not only by clicking on the field with the mouse, but also by sequential tabbing through the page. Second, the main patient page was identical to the test request form from which the data entry occurred. To avoid duplicate patients when a new patient is being created, e-Chasqui searches for patients with similar names, and if any are found a warning is displayed where the user can click on one of the existing patient names or click the “Create New Patient” button. Also, a tool to merge patient records was created to handle duplicates. Duplicate sample records are handled using data quality tools, explained previously in the Laboratory Quality Control section.”

2. Some information should be provided on the performance of the system.
**One method of measuring the performance of the system that we have included in the paper was its increased usage and the requests for expansion from an initially hesitant administration. In the System Usage section we describe the increased number of pages seen by users, as well as the requests by health officials to expand the system because of its usability and benefits. We have also added the following text as the second paragraph in the System Usage section. “This is an online transaction processing system and since it is used in sites with low to medium internet bandwidth, this is a major factor in its performance. Due to e-Chasqui’s simple, text-based design all sites can use it during routine clinical and laboratory work. In 2006, the system performed on average 1865 transactions per day including page views, data entry, and analysis. In 2007, it has increased to 4501 daily transaction and the system’s performance has not been appreciably affected.”

1. How was user satisfaction measured?
**In the section System Usage the following line was added. “This feedback has been in the form of conversations by the research staff with the clinical and laboratory personnel, increased usage of the system by intervention sites, and requests for expansion of the use of the system by the district and laboratory administrators.”

I am Director of Medical Informatics for the organization implementing this system, and I had full access to all the data and take responsibility for the contents of the paper and the integrity of the data.

We have submitted this article following all of the editorial policies detailed in the instructions for authors.

This work is original research and is not concurrently under review for consideration of publication elsewhere. All listed authors have approved this final manuscript.

Please do not hesitate to contact me with any questions.

Sincerely,