Reviewer’s report

Title: Gridlock from Diagnosis to Treatment of Multidrug-Resistant Tuberculosis in Tanzania: Low Accessibility of Molecular Diagnostic Services and Lack of Healthcare Worker Empowerment in 28 Districts of 5 high burden TB Regions with Mixed Methods Evaluation

Version: 0 Date: 18 Nov 2018

Reviewer: Carl Abelardo Antonio

Reviewer's report:

The paper's results overall are interesting. However, I would like to request for further information on the methodology, and a clarification on the presentation of results.

1. METHODOLOGY: Authors used a mixed methods design, which is appropriate for the evaluation thus undertaken. However, the methods or procedures used for the quantitative and qualitative component were not equally described with sufficient detail to allow for assessment of the appropriateness of the results. In fact, the paper has a more extensive discussion of the quantitative component of the study, to the neglect of the qualitative part. Specific suggestions:

1.1. Study design: Describe the quantitative and qualitative components of the study separately instead of indicating that a "mixed cross-sectional and retrospective cohort design" was utilized as this tends to confuse and confound the reader.

1.2. Data analysis: It seems that authors used a concurrent mixed methods design, and proceeded to embed the qualitative results within the quantitative data (i.e., used the interview data to explain the findings from the analysis of the TB cohort data). The entire section on data analysis should be reformulated to reflect (a) data analysis for quantitative data (this is already present in the paper), (b) data analysis for interview data (currently lacking in the paper, see below for further comments), and (c) the method for integration of these two.

1.3. Qualitative data analysis: Authors to please describe how the interview data were transformed into the results presented in Table 1. Authors to also reconsider reduction of qualitative data to frequencies, as this is an inappropriate method.

2. RESULTS: I would surmise that the research yielded a rich trove of data, something which is not shown in the paper in its current formulation. An examination of Table 1 shows that a lot of
factors affect the delivery of an effective intervention in the selected communities. I would like to offer the following recommendations in the presentation of results:

2.1. Authors to first present the results of the quantitative analysis. Analysis of qualitative data can then be used to explain the phenomenon observed (i.e., are the identified bottlenecks consistent with what the numerical data from the TB registers show?)

2.2. It might also be helpful if the bottlenecks can be converted into a diagrammatic representation of where these occur from the time a patient comes in for the initial consultation all the way to completion of treatment.

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

No

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

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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I received professional fees from Johnson & Johnson (Philippines), Inc., manufacturer of a drug for multi-drug resistant tuberculosis (bedaquiline).

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