Reviewer's report

Title: TB treatment delays and associated factors within the Zimbabwe National Tuberculosis programme

Version: 1 Date: 18 May 2014

Reviewer: James Mancuso

Reviewer's report:

Overall I thought this was a very well-written paper with some solid, clinically useful results. I had a few thoughts which the authors may wish to consider addressing.

Discretionary revisions:

1. Why did the authors choose to use chi-square analysis for time to treatment rather than the more commonly accepted Kaplan-Meier survival analysis? Cox regression would also seem to be more suitable for multivariate regression.

2. The authors should comment on why those who lived farther from the facility were less likely to experience delays, since this finding is counterintuitive.

3. The authors should comment on the finding that > 4 visits were associated with health delays. Although this is very logical and intuitive, some more information about these cases (there were very few) would be helpful. Were they diagnostic dilemmas, atypical presentations, HIV infected, bad doctors, etc? The only information presented is that half saw physicians only in one facility.

4. How can the median total delay be 36 (page 11) when the medians for patients is 28 and the median for health system is 2 days. What were the other 6 days?

5. Page 12 discusses the lower than expected system delays of 2 days. Might this finding be the result of the increased scrutiny from enrolling patients in the study (Hawthorne effect)?

6. Much recent interest in the use of presumptive treatment has been raised by the experience with GeneXpert. The authors should consider commenting on the use of presumptive treatment in this population and how it may affect study findings and conclusions.

7. In particular, the conclusion could be strengthened with specifics. The authors state the need for increased advocacy, communication and social mobilization. What about targeting the drug stores and pharmacies as per the results? Recent HIV diagnosis, recent start of ART, and timing of ART would be other known confounders that could impact TB diagnosis. Were any of these patients contacts of known TB cases and was routine TB screening performed among the HIV patients as per WHO guidelines. To what extent were these factors considered
and how might they impact delays?
Are there patients that can be identified who should be screened more frequently? Perhaps those initiating ART after initial diagnosis?

8. Generalizability. The authors should consider commenting further on generalizability. This study was done in smear positive largely HIV positive population. This does not represent the full spectrum of TB cases, and in particular the HIV patient population which is largely smear negative. Delays in smear negative are likely to be much more complex, longer, and difficult to address.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests