Reviewer's report

Title: Comparing HIV prevalence estimates from prevention of mother-to-child HIV transmission programme and the antenatal HIV surveillance in Addis Ababa

Version: 2 Date: 17 October 2012

Reviewer: Jacob Dee

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Major compulsory revisions

1. The methods section is improved, but there are still some issues which are not clear:
   a. It does not state what data was retrieved from AHS reports and PMTCT monthly reports.
   b. Which surveillance and/or PMTCT sites where included in which analysis is not clear. This needs to be addressed because there more PMTCT sites than surveillance sites, and also the number of surveillance sites changed over time.
   c. Analysis methods do not mention 95% confidence intervals.

2. The discussions and conclusions is improved but still contain some statements that are not supported by the study findings.
   a. The limited nature of the study (only sites in the capitol, only aggregate data) does not warrant the conclusion that PMTCT data meet all pre-requisites for use in surveillance (as stated in the Conclusions paragraph) and can replace AHS;
   b. The quality and completeness of PMTCT reports is described as good (such as in the 7th paragraph of the Discussion section) but no clear evidence of this is presented. Issues of data quality and completeness are discussed briefly in the 4th paragraph of the Methods section but this discussion is unclear and confusing.
   c. “In general, participation bias is less likely where routine opt-out HIV approach is properly implemented” (4th paragraph of Discussion section)

3. The analysis and results spends the entire time looking at trends in the epidemic and uptake of HIV testing. That is fine as a background, but the objective of the paper is the comparison of surveillance and PMTCT estimates, which is hardly mentioned in the results section.

4. The writing in the manuscript has improved but is still not acceptable. There are still numerous instances of unclear, vague awkward language throughout the manuscript. The manuscript requires some substantial editing with the assistance of technical writer/editor. In particular, passages that are unclear, vague or awkward include:
   a. Abstract
Minor Essential Revisions

5. The literature review is improved. Some studies are cited twice (Cameroon and Botswana).

6. The discussion of limitations is improved but continues to have two issues:
   a. The authors do not mention the largest limitation of their study: the small number of sites, located in only the capitol.
   b. There are some questions as to whether it is valid compare AHS data (which is collected only over a period of ~3 months) to year-round PMTCT data. This is a comparison of data from different periods.

7. The next to last paragraph in the Methods section mistakenly states that reports were used from sites from “2003 to 2004.” I believe “2003 to 2009” is intended.

8. The figure in the manuscript is not connected to its title.

9. The reference do the Mpairwe study does not state where or when that study took place (4th paragraph of Discussion section).

10. The Background section does not present an introduction to why we are considering PMTCT data for surveillance, which should probably come just before the 3rd paragraph of that section.
11. The tables and figures should specify which and how many sites are involved in the results presented.

Discretionary Revisions
12. A site-level comparison of the surveillance and PMTCT HIV estimates would make the paper much stronger.

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests’