Reviewer’s report

**Title:** Monitoring HIV prevalence: moving towards improved validity and resource saving by replacing antenatal HIV surveillance estimates with prevention of mother-to-child HIV transmission programme estimates

**Version:** 1  **Date:** 29 June 2012

**Reviewer:** Jacob Dee

**Reviewer’s report:**

**Major compulsory revisions**

The research question could be sharpened. The objective stated in the last paragraph of the Background section is unclear and unfocused.

The methods are not described in a clear, complete, concrete and concise manner—particularly with regards to the survey of ANC attendees. There are many such instances of this issue, some examples of which would include:

- It is unclear what information is contained in PMTCT monthly reports,
- It is not states what data was retrieved from AHS reports.
- It is also unclear whether the PMTCT monthly reports and the AHS data match up in terms of the sites.
- Although one can infer from the results what analysis was done, as the analysis methods were pretty straightforward, the analysis is not described in the methods.
- The first paragraph of the Methods section states that the 2009 AHS report was obtained. The fourth paragraph of the Methods section states that AHS reports were obtained for the years 2003 to 2009.

Further, it is not clear why the study included the survey, or what valuable data the survey provided that was not available in the PMTCT monthly reports.

The discussions and conclusions contain many statements that are not supported by the study findings.

- The limited nature of the study (only sites in the capitol) does not warrant the conclusion that PMTCT data can replace AHS;
- In the first paragraph of the Discussion section, PMTCT data are described as “More robust”—this is not substantiated. It also states that PMTCT date are “quality assured”—it is not clear what this means or whether it is true.
- In the second paragraph of the Discussion section the authors state that the “lower and more precise” prevalence estimates from PMTCT data can be “attributed to improved representation in PMTCT programming.” This is not substantiated. Why should a more representative sample provide lower estimates?
• In the second paragraph of the Discussion section, the authors also confuse the issue of comparing AHS and PMTCT prevalence estimates with the issue of the standard biases inherent in AHS surveillance. Since the population receiving PMTCT services is usually the exact same population sampled by AHS, we would expect PMTCT data to suffer similar biases.

• The second paragraph of the Background section states that the HIV prevalence discrepancy between the 2005 Ethiopia DHS and AHS data “demonstrates the poor external validity of the AHS reports.” This language is both much too strong, and (as mentioned previously) confuses the issue of the external validity of AHS data with the issue of the comparability of AHS and PMTCT data.

Some sections of the manuscript contain statements that are not accurate. For example,

• The first paragraph of the Background section states that AHS surveillance is “of little public health benefit since the test is anonymous and unlinked.” Although it is true that there are ethical concerns associated with AHS surveillance, it is widely acknowledged to have important public health benefits.

• The Background paragraph of the Abstract conveys the impression that the use of AHS surveillance is specific to generalized epidemics. But it has also been used in many concentrated and even low-level epidemics.

The results are not provided in an organized and clear fashion and are sometimes confusing. There are many such instances of this issue, some examples of which would include:

• The results section skips around between the results of the different analyses (AHS, PMTCT data and survey)

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

• Because both AHS and PMTCT expanded to additional sites in the capitol during the period under study, it is not clear what sites are included in the reported numbers, and if the sites are comparable or represent different sites.

The discussion of limitations in the last paragraph of the Discussion section is confusing and too brief. For example:

• The authors do not mention the largest limitation of their study: the small number of sites, located in only the capitol.

• 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.

The authors attempt to place their study in the context of other studies on this issue is too cursory and does not seem to represent a serious engagement with the literature on this subject. Findings of other studies are not clearly reported.

The writing in the manuscript is not currently acceptable. There are numerous instances of unclear or awkward language throughout the manuscript, and some
instances of improper usage. The manuscript requires thorough rewriting with the assistance of technical writer/editor. The title language is wordy and awkward. Further, the language in the title regarding “improved validity” is not supported by the findings of the study.

**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.