Reviewer's report

Title: Evaluation of a quality improvement intervention to prevent mother-to-child transmission of HIV (PMTCT) at Zambia Defence Force facilities

Version: 1 Date: 17 May 2013

Reviewer: Pamela Wright

Reviewer's report:

This is a well written paper describing a carefully implemented project and its results. Improving the quality of care concerns us all and this is an approach, using training, coaching and assessment with checklists that show one way to work on such improvement.

The methods are described clearly and the limitations and advantages of the methods are accounted for in a clear and responsible way. I would expect that the example of structured observation and the checking of quality of performance would be a major contribution if the staff involved are willing able to continue to use that approach.

The authors repeatedly note the importance of the fact that they were working with the military health services - it is not clear to me why this is important, any health service could benefit from such an intervention and they report that 80% of the clients are civilians. So that does not need so much emphasis. Unless of course we might have different expectations from the military services. For example, if the better results when lay workers replaced 'military medical assistants' for group education might be related to different training for military medical assistants than for non-military medical assistants, with for example less focus on RH topics. It is only really in the final paragraphs of the conclusion that the effects of being in the military service are presented. It would be useful to state at the start why expectations might be different and what differences there might be, if it is necessary to focus so much on that aspect at all. In my view the main messages are not related to that relation; as stated in the conclusion, the lessons are probably valid for any health service.

The useful addition made by this paper is as stated at the end of the introduction, an evaluation of the SBM-R approach for ANC and PMTCT.

One minor question that should be clarified is how consent was given for the various types of data collection. It is stated that consent was given by the lay workers and health workers - what about the women? And when consent was given was it verbal?

In the section on data collection on page 9, it is noted that 'assessors also returned to some of the others sites to confirm some endline data' - that is very vague, the reader cant judge the importance of the information so it should either be given in more detail or left out.
Again, for observation of consultations (p9), consent was obtained but was it verbal or written?

Under Observation of group education sessions, 'multiple individuals were observed' is again rather vague. There will have been a record of how many? The word multiple could mean 3 or 15. Other information is given in specific detail and we would like this to be in specific detail too.

The planning of the assessment seems to be done very well; one convenient aspect of working with the military service is that the assessment could be done by the Ministry of Health staff who are therefore independent but still qualified.

The time span of the project being described is rather short - it would be interesting to check again in another year or two to find out how sustainable the observed changes were. That would depend for example on staff turnover (especially management staff) and that might differ in the military compared to civil services - is there information about that issue?

The data analysis seems appropriate.

It was very good to check not only the performance but also the facilities; in an evaluation we did some years ago the performance skills were adequate but the facilities did not support the implementation of those skills - so this was a good additional element in this project.

In the results, although there were increases and decreases that were not always easily explained, the trend and the extent of the improvement at intervention sites was clear. The effects of observation were mentioned at the end of the paper, explaining some of the increases at control sites. Again for the question of sustainability, it would be interesting to check again after a longer time, when the stimulating presence of the JHPIEGO colleagues is no longer part of the motivation of the staff.

Also in the results, the importance of deconstructing the overall performance items into separate items is demonstrated. For example, the second paragraph under Facility Readiness on p 16 clearly shows where the intervention sites improved and where they did not. Using information on morbidity and mortality for decision-making was very low in both groups and suggests the need for attention to evidence-based medicine in general.

Also the first paragraph on Group Education results shows that the different areas improved to greatly different extents and that certain areas still need to be improved. This kind of information is very useful for program managers and could serve as a guideline for other services in the country and in other countries, as the kinds of behavior affecting performance here tend to be the same in different settings.

The discussion and conclusion are well structured. Correctly, the need to reach out to the communities if uptake of services and early testing for HIV are to be
improved is noted but it is not very clear how this could be strengthened.

A general point is that this kind of intervention benefits from the extra supervision and coaching provided by an external project and it is not clear how or how well the same sort of work will and can be supported by the services in the absence of such external inputs.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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.