Reviewer's report

Title: Determinants of maternal health services utilization in Uganda

Version: 3
Date: 4 December 2014

Reviewer: Natalie McGlynn

Reviewer's report:

Dear authors,

Overall, the paper has improved substantially. However, there are some tweaks that would further improve the paper. General points to improve the paper include:

1) Further simplifying the research for the reader. Please make the paper as clear as possible, so that the reader doesn’t have to decipher meaning, or the direction you are taking us. Examples include further shortening the introduction, and adding a summary of paragraph on the objectives and overall findings at the beginning of the discussion.

2) The Maternal Health Services Utilization variable is still unclear and perhaps problematic. See major compulsory section

3) I highly suggest changing your referent group from the ideal MHS utilization to the undesirable group. Referent groups are typically the ‘zero’ group; the group that experiences zero or zero amounts of the variable in the question. Since ‘ideal MHS’ is the reference, your results become more difficult to interpret by a reader since this format is unconventional. Another idea is having the moderate group as your referent group to understand the dynamic between moving from undesirable to moderate, then moderate to ideal MHS utilization.

4) I suggest changing your MHS variable somewhat since 91% of the sample is in the undesirable category. This percentage is really large, since everyone is essentially most likely to utilize the undesirable MHS package. Perhaps you could change the definition to add more people into the moderate care level, or have another ‘intermediary’ category between undesirable and moderate care. If you break up the undesirable group, you may find more interesting associations to highlight. As is, your findings are to be expected, and not very novel – that high levels of education, being rich, and in the capital city are associated with utilization of ideal MHSU. It doesn’t add a whole lot of new information on how to improve MHS utilization.

Major Compulsory

p.9. Explanation of Maternal Health Services Variable is better, but still awkward. The categories need to appear more discrete. For instance, you state the moderate category as <4 ANC visits, but undesirable category as NO ANC or at least 1 ANC visit. Moderate category should then read that it involves 2 of 3 ANC
visits PLUS all other components.

p.9 Some women still appear to not fall into the MHSU categories. Where would a woman go who had 3 or 2 ANC Visits, and an UNsupervised delivery?

Minor Essential

Abstract-Good that you have explained exactly what ideal MHSU is, but what is undesirable and moderate MHS?

Abstract – Make it clear what group is the referent group in the results section.

-p.3 line 14 “Similarly use of maternal health services, is a key predictor of perinatal death” – do you mean the opposite? A key predictor of perinatal death is the failure to use maternal health services?

-I would shorten the introduction further. A lot of parts in the ‘Ugandan context’ could actually go into the discussion.

-p. 7, line 22. No need to list so many questions related to ANC in the DHS.

-p.9 ‘Other co-variates’. Please explain how these co-variates fall into Andersen’s Behavioural Model.

-p. 9 line 19. Why does it say you are doing descriptives of modern contraceptive use, and info as it pertains to men? I think this is a typo?

-Discussion. At the beginning, summarize your objective and your main findings, instead of jumping into explaining one of them right away.

p.13 line 21. Remove ‘expected’. No interpretation should be in the results section

-Discussion – if keeping MHS as is, you need to focus and discuss the fact that 91.3% of women were utilizing the undesirable package.

Discretionary

-There are times when English grammar needs improvement. It is a bit awkward. There are missing commas throughout. Perhaps the editors of BMC can help if accepted.

-When you mention the outcome variable, MHS utilization, I would reinforce that you are looking at a full spectrum of recommended maternal health care services’ by consistently calling it something like ‘MHS package’

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

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests