Reviewer's report

Title: Comparison of medicine availability measurements at health facilities: evidence from Service Provision Assessment surveys in five sub-Saharan African countries

Version: 1 Date: 8 April 2013

Reviewer: Marit B. Veierød

Reviewer's report:

Major Compulsory Revisions

1. The term ‘relative difference’ is used in the Abstract and the paper. There are several ways to define a relative difference, thus this should be clearly defined both in the Abstract and the Methods section. Is there a reference to this measure that can be added in the last sentence of the first paragraph in the Methods Section?

2. Abstract: The sentence ‘Differential patterns in the relative differences were assessed between public and non-public facilities’ is difficult to understand. Please rewrite (e.g. simpler: Public and non-public facilities were compared within each country).

3. Last paragraph of the Methods section: all estimates were adjusted for sampling weight, how?

4. Independent sample t-test was used to compare availability of the 32 medicines in public and non-public facilities. Has it been discussed in the literature in this research field that the statistical power depends on the number of medicines that are being compared? Moreover, I have looked at the list of medicines in Appendix 2, but since I am not a medical doctor I wonder: The t-test assumes independent observations within each group, is this fulfilled?

5. p-values are presented with three decimal places. Unless this is required by the Journal, I suggest that p-values larger than 0.01 are presented with two decimal places, p-values between 0.01 and 0.001 with three decimal places and p-values smaller than 0.001 as p<0.001 (and do not use 0.000 but <0.001).

6. Results, fourth paragraph: It is confusing when the first and second sentence say that there were no statistically significant differences, and then significant differences are described in the third and fourth sentences. Please rewrite e.g.: There was no significant difference in current availability between public and non-public facilities within the countries, except in Uganda (p=0.009) (Table 4). Relative differences in current availability were not significantly different between public and non-public facilities, except for ‘Observed, all units valid’ in Uganda (p=0.001) (Table 5).

7. Results, fourth paragraph, last sentence: change ‘…had larger’ to ‘had significantly larger’.
8. Discussion, first paragraph, last sentence: it should be added that this was not the case for six-month availability where significant differences between public and non-public facilities were observed for 3 of the 5 countries.

Minor Essential revisions

1. In the Methods section (first paragraph) the authors describe that proportions of facilities with the medicine were calculated using the four different definitions of current availability. The results are presented as percent availability (Table 2), thus this term (percent availability) could have been introduced. Table 2 heading: I suggest to slightly change the table heading to ‘Estimates of current availability (%) of 32 medicines based on the reference definition*: by country’.

2. Discussion, third paragraph, first sentence: is there a reference for this statement?

**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.