Reviewer's report

Title: Home-based voluntary HIV counselling and testing highly acceptable and equitable

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Reviewer: carla obermeyer

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Home-based VCT highly acceptable and equitable Mutale et al BMC

The article provides an analysis of data on the uptake of testing and counselling before and after a home-based VCT program was initiated in the country. The main result is that the provision of home-based VCT resulted in increased uptake and a reduction of differentials, hence in better access and acceptability.

The topic is important, the overall design is adequate, and the results are interesting and relevant to policies and programs. But the paper suffers from a number of weaknesses that would have to be addressed before it is published.

Compulsory revisions: clarify methodology, rewrite some of the results and interpretation, better link to literature. All these should be easy to address. Minor essential revisions: suggestions for tables and figure, additional information to provide, spell checks

1. Conceptual framework and link to the literature

The paper shows familiarity with main sources on Zambia, but would be enriched by better drawing on the literature from other settings, not just for comparative results, but also to help think through the main issues related to the uptake of different models of testing and counselling, and the consequences for those who are tested. In addition, the paper refers to equity without sufficiently clarifying what it means, and at times, it seems to be conflated with any socioeconomic differentials (eg page 3 paragraph 4). Given that equity in access is a main point of the paper, attention to the concept and how to measure it would have been important.


2. Methodology
The paper compares testing before and after an intervention, but it is not entirely clear what time period the "before" and "after" figures relate to. The authors explain that a first survey was conducted in 2003, that participants were asked if they were willing to be tested, and that some actually tested. Were all the data collected at the time of the 2003 survey? If so, that is quite a delay in analyzing the data; if not, then some explanation about the time frame is in order.

Another question relates to the selected communities, and to the need to age-standardize the results—details on these would help clarify the methodology.

Also, do the data about previous testing come from questions asking respondents if they had been tested before? If someone re-tested at home, was this person considered in both the before and after percentages?

3. Presentation of results

The paper makes the case that testing increased, that rural urban differences were reduced thanks to greater increase in testing in rural areas, that age differences were reduced thanks to increases among young people, and that gender differences were reduced thanks to greater increases among men. This is apparent from simple differences in percentages of testing. A statistician may advise whether it would be desirable, in light of the details on data and methodology as requested above, to conduct tests of statistical significance on the before and after differences across categories.

Some points of detail in the results and tables

Table 1: definition of acceptability: it seems that it is the proportion of those intending to be tested who received their results (not "and receiving their results")

Table 2: unclear what the asterisk refers to and if tests of significance were conducted on the before-after difference

Figure 1: a bar diagram is probably better than a line diagram

The writing needs to be edited throughout, eg missing verb in first sentence of para 4 on p 3 and in third para on p 4; spelling mistakes; unclear writing last sentences of para 2 p 7, and middle of para 2 on p 9.

4. Interpretation of results

The interpretation would be stronger if the paper drew on the literature--see #1 above.

The paper would also be enriched by providing some information about what actually happened during home-based testing and counselling, how it was received by respondents, whether the quality was acceptable, and what sort of follow-up took place (even if that was not part of the study itself). Some brief information about the context of the study, respondents' expectations from the test and how those matched with what in fact took place would help think about the effects of home-based testing.

There are missed opportunities for trying to understand what has been observed.
This is in part related to the limited way it draws on the literature, but also to glossing over results. For example, the paper refers to interesting gender differences whereby before home-based VCT, men had a higher percentage of intentions to test than women and women higher percentage of actual testing than men. After home-based testing, the differences disappear in urban areas, and reverse in rural areas. The paper should comment on these differences. Similarly, the presentation of the effect of educational differences is unclear: the paragraph on p.7 does not exactly match what is in the table, and the discussion on p.9 is confusing and could be written more clearly.

**Level of interest:** An article of importance in its field

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests