Reviewer's report

Title: Equity in HIV testing: evidence from a cross-sectional study in ten Southern African countries

Version: 1 Date: 2 June 2010

Reviewer: Stefan Baral

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General
This is a manuscript describing a large household based cross-sectional survey in 12 countries assessing levels and determinants of self-reported HIV testing status. It is an important data set that can help inform VCT strategies in the region--which is an essential component of comprehensive HIV prevention in generalized epidemics.

Major Compulsory Changes

The most important change that needs to be made to this text is the inclusion of a biostatistician to provide a more detailed and thorough analyses of these data. While there is an interesting use of clustering method, there description of adjusted analyses is insufficient. On the second page of the methods, there is some explanation of covariates that were adjusted for, yet all odds ratio are not presented as adjusted. If these are adjusted odds ratios, they should be presented as such. If not, this should also be made clear. If different models were used in different settings, this also needs to be made clear.

Given the importance of risk status in the article, there needs to be further clarification of how high risk status was defined. The second page of methods includes a series of determinants of risk, but it is not possible to assess how these various determinants were used to assess final risk status. Did you just need to be positive for one, more than one, etc.

What is the basis for the condom-choice disabled index variable. Why does the perception of partner risk status affect the ability to negotiate condom use? Isn’t answering yes to the question around the partner refusing the wear condoms sufficient to be defined as choice-disabled? If not, I

There is no description of limitations including selection bias here. Given that 42% of households did not take part in this survey (including 10% that refused), non-responder bias is an important limitation given the lack of a control group. There are other biases which should be described as part of a more thorough limitations section including more than just the lack of temporal associations.

In the results section, it is relevant to provide the odds ratios as compared to just having them in the table. In the very least, p-values should be placed there to allow the reader to assess the level of magnitude of these differences. Currently,
these are only included in the factors related to intention to test section—and here there should be uniform level of decimal places used.

I am not sure what the authors mean by a priori risk—what determinants of risk are included this assessment?

Has the Cascada model been validated? The two references do not provide a well detailed description of this model, though it sounds similar to the theory of planned behavior. It is fine to use, but I would appreciate a little more information on its development and validation.

Minor Essential Revisions

There are some grammatical issues, and would ask the authors to complete a thorough review before resubmission.

Discretionary Revisions

I would ask the authors to consider applying an equity lens to this work and considering other risk groups such as sex workers and men who have sex with men.

**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'