Reviewer’s report

Title: Feasibility of Community Based HIV Self-Screening in South Africa: A Demonstration Project

Version: 0 Date: 07 Dec 2018

Reviewer: Charlene Harichund

Reviewer's report:

Abstract
1. This background section does not adequately contextualise the problem being addressed and study aim. Also, the problem being addressed is unclear. In addition, HIV self-testing is a screening tool and does not provide individuals with a confirmed diagnosis.

2. The aim of the study is "evaluating the feasibility and acceptability of HIV self-screening in South Africa" but the title of the study indicates only feasibility is evaluated.

3. The methods are not well described in the abstract. The authors may want to consider including, who the study population was, what data collection methods were used and duration of study as this is a prospective study

4. The results included in the abstract is focused more on demographics rather than what the study outcomes were. At a glance, it is noted that unsupervised HIV self-screening was preferred, but comparative evidence is not included. Also, prevalence of HIV seems to be more of a secondary outcome and am unclear about how this relates to the primary aim of the study.

Background
Overall, the background section lacks focus and does provide justification for the study.

The authors mention "several HIV testing models" but do not describe them. Although these HIV testing models may have some barriers in common, there are nuances. HIV self-testing in South Africa serves to address barriers of specific HIV testing models. Therefore, the authors need to better articulate the context of the study, the knowledge gap that they aim to address and support this with evidence from literature.

The aim of the study mentioned in the abstract includes acceptability of HIV self-screening and acceptability is included in the results section of the abstract. However, in the background section (P3: 39-46) only feasibility is mentioned.

Evidence pertaining to feasibility is not included in the background.

Methods:
Overall, the methods does not flow to the reader. Information contained in this section is split under several sub-headings which makes it difficult to follow.
A sub-heading "study design" could be included after P3:52.

Perhaps consider restructuring methods section of manuscript to begin with study setting, study population, study design, data collection and data analysis to improve flow.

P4:1-2, semi-structured interviews were used to assess acceptability, unclear how feasibility data was collected. Semi-structured interviews should be described further.

P4:41-42, numbering is inconsistent for recruitment strategies.

Recruitment strategies are spread between study setting and study procedures, recruitment. Revise by combining.

Results:

Feasibility studies include an assessment of economic, technical and environmental to determine if a product is feasible. Based on the available results, the research aim has not been addressed.

P10: 1, unclear why "method of screening" is under results section.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:
1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?
If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal