Reviewer's report

Title: A qualitative analysis of the barriers and facilitators to HIV counselling and testing amongst adolescents in South Africa

General comments: Thank you for asking me to review this submission that presents a qualitative analysis of the perceptions of adolescents in South Africa about HIV testing and counselling uptake. South African is a high burden country with an ambitious aim to integrate HIV testing and counselling into school health. There are a number of gaps in understanding of how this should be done and the paper has the potential to add information and make recommendations on this. However, this is a field with a lot of previously published studies and the contribution of this paper is limited, in that it confirms much of what is already known by programmers and researchers from other similar studies and does not clearly delineate new contributions. Additionally there are a number of methodological limitations to the study and a lack of depth in the analysis that undermine the quality of the paper itself. My recommendation is that the paper would require major revisions and resubmission in a revised format for reconsideration.

Specific comments:

Background

1. Please can the authors define ‘youth’

2. There needs to be more background on the legal situation and debates around this in South Africa. It is hinted at in a single sentence (line 20 page 5) but this does not mention that legal age for marriage, the age for consent for HIV testing, the definition of mature minors etc. The age of consent for testing was widely debated and South Africa is a global leader in this. It should be summarised and referenced here alongside some background on the implications for HCT programmes.

3. The paper is focused on recommendations for integrated services and needs to grapple with the literature on integration versus stand-alone services for young people. What is already known about this? How are services currently targeting young people in South Africa provided as a result?

4. A diagram on SCT would be helpful as a figure. Either in the introduction or to illustrate how authors feel it should be adapted in the discussion section. See comments below.
5. The introduction and background should build and culminate in the rationale for the study but the aim is currently buried at top of page 7 and the top of page 10– please revise this. There is no specific aim about exploring integration into the ISHP but this appears to be the main thrust of the discussion. Please clarify if this was an aim and if so how the methods met this aim.

Methods

1. A justification of why qualitative methods are used is required
2. Make clear that this study was nested in a larger study with a linked purpose and overlapping questions. It is not clear from the methods if the qualitative data collection was all one and dates are for the larger study or this sub study.
3. We need to understand more about the selection criteria for schools and individuals. If random then the randomisation needs to be explained, including what this adds and detracts from the study.
4. What was the age range of included participants – only lower limit is given.
5. It is not clear whether students who had been previously tested were included in general FGDs. It appears to be the case. If so this should be stated and the implications discussed in light of the findings that stigma and discrimination about being seen to test at all are a barrier. Would the probes on testing experiences not make these individuals vulnerable in light of your arguments?
6. We need a better understanding of why the 5 additional FGDs with boys were needed or if they were only needed for the larger study and the data are thrown in here.
7. It might be useful to include the topic guide as supplementary material so the reader can see how it aligned to the research objectives (page 12 line 6). It is unclear if the topic guide was focused on testing around VMMC or HCT in general and how this may have influenced the findings. Suspect that this was primarily focused on VMMC and this is also hinted at by the sentence on page 13 line 8 that says codes were based on knowledge and perceptions of VMMC (not HCT). It is not clear if there were questions about integration of HCT or not.
8. It is not clear if the process of analysis is entirely deductive or if there was also an inductive process.
9. Make clear if all the institutions had the same type of HCT services. Also were FGD participants mixed across institutions or not? Perhaps a table would help to clarify this.

Results

1. The analysis lacks depth and reads more like a first draft narrative from raw quotes. There seem to be a lot of quotes and little analysis, with quite a lot of overlap in the structure. I suggest reviewing the subheadings, tightening it up and adding some depth to the analysis including more triangulated findings, reflections on variations between sites and running some more complex queries.
2. Given that the main method used was FGDs I was surprised to see individual quotes only and not excerpts of dialogue
3. Quotes need to be attributed to a particular FGD and type/size of institutions
4. The results section is long with overlap between the themes and areas.
5. The values and attitudes of counsellors (as well as the content) seem important and it would be worth exploring this area more. What are the key features that are important to young people? Is there a distinction between counselling and knowledge and information giving in the minds of young people?
6. Were there any results about what young people felt about integration of HCT into the ISHP?

Discussion
1. The summary of the findings in the beginning of the discussion does not adequately reflect the presented results as it focuses on the importance of integration that is not a direct finding.
2. A lot of material here would be expected to appear in the results as analysis. For example text page 24 line 17-24; page 25 lines 16-21 etc.
3. The discussion of the SCT needs to capture whether or not this framework is useful and if and how it could be adapted to better explore HCT in young people. Perhaps including a diagram here.
4. The discussion needs to better embed the findings in what is already known and what the paper adds. Does it simply endorse existing literature? What do the findings add and what might they mean. E.g. page 25 lines 18-21; page 26 lines 13-16. Page 28 line 11 be more explicit about how exactly it adds.
5. The findings seem to indicate support systems are more important to knowledge. This could be discussed further on page 25 (line 10 onwards).
6. The paper needs a section on limitations that covers (at a minimum) the limitations of qualitative data in general and use of FGDs in specific, the sampling frame, the limitations of a nested study, The limitations of including sites taken part in research as opposed to schools that are more representative, the use of all male interviewers, the inclusion of previously tested with untested youth in the same groups.

Minor suggested revisions
1. Page 4 line 20 this reference is about mandatory testing and should be replaced with something that better fits the sentence.
2. Page 4 line 25 suggest change ‘access’ to ‘linkage’
3. The last paragraph on page 6 appears redundant
4. Page 7 subheading barriers and facilitators. Please separate into two subheadings and include youth in the sub title.
5. Page 8 line 16 do you mean HCT services tailored to or not tailored to?
6. Page 9 line 7-10 on education may be better placed alongside section on knowledge on page 8 line 4 not here under costs.
7. Page 9 line 15 has a superscript reference that needs adjusting to journal style.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests