Author's response to reviews

Title: "Blood from a finger prick is to test for Malaria." A qualitative exploration of HIV testing preferences in Tanzania

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Version: 2
Date: 3 July 2014

Author’s response to reviews: see over
Response to Reviewer Comments

Reviewer 1 (Mmbaga)

Major comments:

1. The title carried only a single expression from one participant and does not carry the main finding of the results presented. The interplay between the three major domains and the need to address them should feature in this work.

   *We thank the reviewer for this suggestion. We now propose the following title: “HIV Testing Preferences in Tanzania: A Qualitative exploration of the importance of confidentiality, accessibility, and quality of service”*

2. Women and men in Tanzania have different testing opportunities and access and their perception and use of this service will definitely be different. The results should reflect this gender differences and presented by gender.

   *We agree. Separate groups were held for women and men, and each quote in the results section indicates the participant’s gender. Table 1 and Figure 1 each present data sub-grouped by gender.*

Minor comments

1. What was the age range of the participants in the interviews for IDI and FGD?

   *In addition to listing the mean age in years in Table 1, we have included the range.*

2. Most people are sensitive to age and gender of counselors and knowing the mean age of the different participants would shed light on the results. For instance, a person preferring a counselor aged 50 years would probably be around 50 years. Most young people do not like to discuss sexual related issues and HIV testing with older counselors but rather consider age mates are more youth friendly.

   *Please see our response to the comment directly above. While this research focused on identifying preference-relevant features of HIV testing interventions, in future research we intend to identify which features appeal to particular sub-groups (e.g. younger counselors to younger persons and older counselors to older persons.)*

2. What was specifically done for this study to ensure that if focuses much on the breadth rather than depth? Was depth not an important aspect of this study? Would be good to understand in depth what shape these different testing preferences

   *We clarify the approach in the third paragraph of the subsection, “In-depth
interviews and focus group discussions” in the Methods section. As indicated in our response to the comment directly above, this study was not designed to identify which individuals prefer which kinds of tests or testing characteristics; instead the study sought to identify as many characteristics as possible that are relevant to the preferences of this population.

3. Did the authors use and qualitative software? How did they develop memos during analysis?

We clarified the approach in the methods section. We did not use software for the qualitative analysis. IDIs were independently annotated by multiple investigators; similarly, FGD notes taken by note takers and multiple investigators were discussed among investigators and used to iteratively revise the FGD guide. Memos were written in the process of writing of this manuscript, after the completion of data collection, on the basis of annotated IDI transcripts and FGD notes.

4. Its is contradictory when participants mention to prefer large hospitals which usually area high volume and in some other part mentioning that they do not prefer high volume facilities? (see page 8)

This is an excellent point that highlights the heterogeneity of testing preferences and the trade-offs that individuals make in considering testing options. Some clearly preferred to test at more high-volume venues where they perceived the accuracy of the test to be better. Others, concerned more about confidentiality, may have been willing to sacrifice perceived greater accuracy at a high-volume venue for perceived lower risk of being seen testing at lower-volume sites. This is now addressed in third paragraph in the discussion on page 17.

6. Discuss how paying for test would affect the usefulness of HIV testing and counseling and the future uptake of care and treatment?

We have added the following to the discussion. Disparate views were expressed regarding direct payments as means of increasing accessibility of testing. We note that, in the context of selected studies that addressed a slightly different question, high value conditional cash transfers, given in exchange for testing negative for sexually transmitted infections, were associated with reduced infection.
Reviewer 2 (Groves)

Introduction

1. Major revision: the authors’ entire premise of the paper is that it is characteristics of the testing venue and not other individual/relational/structural factors that influence individual testing decisions. Given this premise, I feel like there needs to be a paragraph in the introduction of the paper that builds a rationale for the focus on understanding characteristics of the testing venue as opposed to understanding other factors that influence individual testing decisions.

   We agree with the reviewer’s observation and added a paragraph to the introduction that builds the rationale for the focus of this paper on testing characteristics. The paragraph concludes that an understanding of which characteristics of HIV testing options are associated with preferences may ultimately allow for the design of testing options that better match the preferences of diverse populations.

2. Major revision: it would be helpful if the authors would describe the context of testing in Tanzania in greater detail in the introduction. The authors tell us that there are varied options for testing. Given that the focus on the paper is on characteristics of different testing sites, it would be helpful to know up front what is currently available in this context. The authors do identify different types of testing in the second paragraph but this paragraph seems to be about what is available more generally in Sub Saharan Africa.

   We added additional details about HIV testing options currently available in Tanzania, and in the study area specifically.

3. Major revision: it is not clear from the introduction how both in-depth interviews and focus group discussions are going to help the authors answer their research question. These are two distinct qualitative methods and it would be helpful if the authors set up a rationale for the use of each these methods in their introduction.

   We now clarify in the description of the methods that in-depth interviews preceded and informed the development of the focus groups discussion guides, i.e., we used them as separate methods and for different purposes. While our conceptual model, and the ranking data, were principally the result of the Focus Groups, to adequately reflect that both methods contributed to this manuscript we selected illustrative quotes from both in-depth interviews and focus groups.

4. Minor revision: Related to point #2, it would also be helpful if the authors briefly describe the National Testing Policy in Tanzania since that might help readers to further...
understand how individuals are/are not being reached.

This is now addressed in the third paragraph of the Background section.

5. Discretionary revision: The first sentence of the second paragraph describes “worldwide” barriers to uptake of testing. However, all of the references cited are specific to sub-Saharan Africa. I would suggest changing the beginning of this sentence to match the literature cited.

We have changed the paragraph as suggested by the reviewer.

Methods

1. Major revision: the contextual information about Moshi is limited. Can the authors tell us a little more information? Are the types of testing offered in Moshi similar/different to the rest of TZ? Are there testing statistics specific to this town?

We now describe in the manuscript the availability of different HIV options in the study area, including a 2008 national HIV testing campaign that provided diverse HIV testing options in the study area.

2. Major revision: I think, though am not totally sure, that the IDI’s preceded the FGDs. This needs to be stated explicitly in the methods section. It would be helpful, too, if the authors discussed whether and how these two forms of data were analyzed together or separately.

The IDIs preceded the FGDs and informed the development of the focus groups discussion guides. As described in our response to Introduction comment #3, we clarified this point in the methods description.

3. Major revision: it is unclear what the purpose of the IDIs was. This can be clarified in the introduction (as suggested above) but then needs to be further expanded in the methods section. What was the purpose and value to recruiting 8 individuals for IDIs from the locations described? This is a very small sample, even for qualitative research, so how does it help to further our understanding of the authors’ research question? Why not also sample these participants based on testing history (to be consistent with the sampling for the FGDs?)

As described above, the IDIs preceded the FGDs and informed the development of the focus groups discussion guides. We clarified the approach and rationale in the methods section.

4. Major revision: I don’t understand the sentence “because the focus of the FGDs was on representation rather than representativeness, no attempts were made to identify the
preferences of any specific subgroups...” The authors sampled on characteristics that they thought might affect preferences for testing venues (gender and testing history), and they say in their results and discussion whether the findings differed on these characteristics.

The purpose of our sampling approach for IDIs and FGDs was the inclusion of diverse viewpoints and experiences to ensure that as broad a spectrum of preference-relevant characteristics could be identified. Differences in preferences between the groups are the subject of subsequent, ongoing, quantitative research. This is now clarified in the methods section as well as in the limitations.

5. Minor revision: the authors suggest that “standard FGDs” focus on depth of information rather than eliciting breadth of information. A citation would be helpful here as I am not sure all qualitative researchers would agree with this. I think the type of information elicited tends to be specific to the RQ at hand.

We dropped that sentence as admittedly it was confusing; instead we now describe in greater detail the sequential, iterative approach.

6. Minor revision: in the analysis section, it would be useful if the authors discussed how they looked at differences by gender and testing preference (see note #4). Also, it would be helpful if they talked about how they reconciled any discrepant findings in their coding of the four FGDs.

As indicated above in our reply to comment #4, the goal was not to develop a consensus, but to identify the full range of determinants of HIV testing preferences. Given that they are reflective of the heterogeneity of preferences, we highlight, rather than try to resolve, discrepant findings. We explicitly mention this point in the discussion section.

Results

Editor: “Please pay particular attention to Point 1, under Results, of Reviewer 2 (the apparent overlap between confidentiality and quality of counselling). It would be important to resolve this point well in order to ensure the coherence of the framework presented.”

1. Major revision: the biggest issue I have with the conceptual framework that is presented is that I am not sure I see “confidentiality” and “quality of counseling” as separate domains. I think some researchers would argue that confidentiality is a part of ‘quality’ when it comes to counseling. Even in reading the presentation of the results section, there was overlap in these domains – for example, the participants suggested the same characteristics of the counselor to affect both domains. I get that there are
some structural aspects of the facility that might affect confidentiality; however, other than that, I see these two as inextricably linked. What if the two domains of the framework instead were “accessibility and ancillary services” and “quality” and “ability to maintain confidentiality” was a box, rather than a circle? Would that work? If the authors feel that the two domains that they presented truly are distinct, then it would be helpful for them to talk about ways in which they do overlap (as I discussed above).

We greatly expanded the description of the conceptual framework, and describe each domain in greater detail in the text. We also better differentiate the three domains (underlying dimensions) from the individual testing attributes (specific characteristics of testing options), and provide examples for the relationship between testing characteristics and domains.

We place more emphasis on clarifying that the quality domain refers to multiple quality dimensions, including the perceived accuracy of different types of HIV tests, the perceived quality of testing procedures at different testing facilities, the knowledge and experience of the counselor, as well as the quality of counseling (including, for example, the reference to “good language” by some participants).

We also clarify that an important component of the confidentiality domain refers to participants’ fears of being seen testing for HIV (vs. either not being seen, e.g. by testing out of town, or being seen but not known to be testing for HIV, e.g. by going to a health center where they could be for a medical issue or a health check-up). Concerns about disclosure of results by counselors were voiced by some participants, but these were generally secondary to the fear of being seen testing. Arguably this differential emphasis reflects the stigma associated with HIV testing, while at the same time people know that most people have a higher chance of testing negative than positive.

The purpose of the colored display of individual testing attributes is to visually illustrate the fact that most characteristics of HIV testing options are inextricably associated with multiple domains. In the discussion we now emphasize more strongly, as the reviewer points out, that the three domains are closely related to one another and cannot be considered or addressed in isolation.
To elaborate on the reviewer’s suggested potential dichotomization:
The availability of ancillary services was associated with both accessibility (the
potential use of other services while presenting for HIV testing), perceptions
of quality (either positively, as a sign of broad expertise; or negatively, as a
sign of lack of specialization and focus), as well as confidentiality (clients are
either known to be testing for HIV when seen at the facility or have other
reasons to be there). Virtually all of the characteristics of HIV testing
options were inextricably linked to multiple domains, the concept map reflects
our attempt at visualizing and emphasizing these underlying relationships.

2. Minor revision: I am not sure that Table 1 adds much to our understanding of who the
study participants are or how the demographics presented contribute to our
understanding of their testing characteristic preferences. This is particularly true for both
the gender and testing history rows, since those are characteristics that the authors
sampled on (therefore, I would expect them to be evenly split...and the only reason they
are not is because the authors included the characteristics of those who were in the IDIs
in these descriptive stats as well).

The purpose of Table 1 is to demonstrate the representation of different
types of study participants, including single and married participants, those
with primary and secondary education, and older as well as younger individuals.
In this revision we have expanded Table 1 to also include the number of
children, and, to address reviewer 3’s comment, also list the omitted
reference categories. The variation by gender and testing history also reflects
differences in the sizes of the focus groups (while 12 participants were invited
to each group, only 6 to 9 participants participated, depending on the
group.)

3. Major revision: There is very little time/text devoted to the results of the ranking
exercise, yet it is a major component of the analysis. Is it useful for us as readers to
have all three figures? Are there particular similarities/differences across the figures that
the authors would like us to pay attention to across the three figures? If so, then that
should be reflected in the text. Otherwise, the figure as it currently stands is pretty but a
little busy.

In response to the reviewer comments regarding the limited information value
of attribute rankings (Discussion, comment #4) we removed Figure 2 and the
discussion of the ranking exercises from the manuscript. The heterogeneity of
preferences has since been quantitatively characterized in a recent publication
[51].
4. Discretionary revision: I would consider putting the concept map at the beginning of the results section and then referring to that as you present the different results. It frames the organization of the results and is nice to look at as one is reading the results.

We thank the reviewer for this suggestion. We extensively discussed the option of presenting the concept map first, but ultimately decided against it, in order to avoid the perception that it represents the "premise" or starting point for our study when in fact it is the principal outcome.

5. Discretionary revision: I am old school and printed out the article to read it. When you print the article, you cannot tell a difference in the different categories in the two figures. Is it possible to modify the bars so that some bars are striped/dotted/etc if one is looking at the article in grayscale?

As described above, we have dropped Figure 2 from the manuscript.

Discussion/Conclusion

1. Major revision: The authors find that confidentiality, quality and accessibility matter to HIV testing. These are not new findings and yet they continue to persist as barriers to testing uptake. It would be useful if the authors reflect more in their discussion on why these issues might continue to persist after so many years of offering HIV counseling and testing. The authors can also talk in more detail about how changing approaches to HCT might address the issues participants identified. For example, I really like how the authors talk about how testing services at a hospital might be one way to address confidentiality (and quality). However, in their data, there were some participants who mentioned that the quality at hospitals was often compromised based on demand. Given such, the authors might want to reflect more on costs/benefits to different 'new' proposed approaches in their manuscript.

We thank the reviewer for this comment. We added to the paragraph discussing novel approaches to HCT a sentence that indicates that these approaches have to weigh the benefits of addressing heterogeneous preferences against the costs and complexities of addressing interlinked barriers. Approaches that promise to have a positive benefit-cost ratio will have to be identified in larger, quantitative studies.

2. Major revision: one of the main findings to me, seems to be there is great variability in what people are looking for in their testing site and therefore that different sites, may be appropriate for different individuals. How does the finding build on existing literature? What might we think about moving forward in terms of research and future intervention implications given such heterogeneity?

We describe in the discussion section that preference heterogeneity has been
corroborated by (subsequent) quantitative analyses in the same study area, and conclude that preference-matched HIV testing interventions may hold the potential to increase uptake of HIV testing and repeat testing.

3. Minor revision: the authors talk about how the “use of provider-initiated HIV testing” within hospital settings might constitute a new approach in Tanzania. The authors should review existing policy guidelines in TZ (as I commented on in the introduction) since it is not clear whether or not PITC would be a new strategy in this context. Also, the authors should define what they mean by the term, PITC, since it is used in many different ways in existing literature (see this paper – though it focuses on testing approaches in pregnancy, it also talks about confusion in usage of different terminology in testing approaches: Maman S., Groves A., King E., Pierce M., Wyckoff S. HIV Testing during Pregnancy: A literature and policy review. Available at: http://www.soros.org/initiatives/health/focus/law/articles_publications/publications/hivtesting_20

   We thank the reviewer for this comment and the link to the paper. We now clarify in the introduction that PITC is available in Tanzania and refer to the paper in the context of describing the different HIV testing options, including VCT and CITC.

4. Minor revision: the authors discuss how “frequency of reference to a specific characteristic is not necessarily reflective of its importance to participants” because it appears that participants ranked different characteristics but then no further feedback was yielded on the ranking exercise. Given such (and the paragraph that follows about the limitations in terms of the informative value of attribute rankings, I am left wondering what we can learn from the rankings exercise (this comment is related to comment #3 in the results section as well).

   As described above, we removed Figure 2 and the discussion of the ranking exercises from the manuscript. The heterogeneity of preferences has since been quantitatively characterized in a recent publication.

5. Minor revision: it is very unusual for data to be presented for the first time in the discussion section. I would recommend removing the quote from the discussion.

   We removed the quote from the discussion section.
Reviewer 3 (Igonya)

While I support the publication of the test, it needs some revisions. Literature review in regard to the core topics is not well exploited. Literatures on HIV testing practices at global and local levels- HCT to HTC (opt in and opt out) and test and treat should be sufficiently exploited. I believe there is so much out there on HIV testing practices on different testing options.

We now provide additional detail on the HIV testing options available in Tanzania. We clarified in the introduction that this paper is not about actual uptake of individual testing options, but about characteristics of testing options that are associated with HIV testing preferences.

Methodology: How was the sample size determined? A little bit more information on study setting. Can the author reconcile the characteristics of study participants in Table 1: Marital status only 17 married out of 39 participants provided their marital status; Education level: only 19 out of 39 responded? Were the rest above primary school or the decline to respond? Education, marital status and socioeconomic status can shade more light on variance in testing preferences. Provide reasons for use of IDI and FGD?

The reviewer is correct re: the interpretation of the frequencies. To avoid confusion we describe the respective reference categories in Table 1. We now also clarify that the sample size combines IDI and FGD respondents. As described in our response to Reviewer 2’s comment, we now clarify that in-depth interviews preceded and informed the development of the focus groups discussion guides, i.e., we used them as separate methods and for different purposes. To adequately reflect that both methods contributed to this manuscript we selected illustrative quotes from both in-depth interviews and focus groups.

P8. Large size of a hospital which provides high degree of anonymity can also be high volume testing centres where confidentiality seems to be a concern? Be more specific with the definition of large hospitals, do you only imply large public? We also have large private- for- profit facilities and faith based health facilities that use more accurate technologies? Or did you imply the ‘small’ private health facilities

We ensured that distinctions between high-volume HIV testing centers (which were mentioned primarily in the context of quality of counseling and being seen testing for HIV) and large hospitals (which were mentioned primarily in the context of confidentiality of testing and accuracy of test results) were retained in the description of results. In the study area there are both private and public facilities, including a large private hospital and a large public...
hospital. While participants discussed testing in hospitals (vs. other venues), testing in private centers (vs. others), and testing in large vs. small testing sites, these attributes were usually discussed separately, therefore no inference can be made re: their interactions (e.g. testing at large private hospitals vs. a small public testing center.) No specific mentions were made of the faith-based character of individual testing facilities: it appears that is not a characteristic that drives individual patients’ HIV testing decisions of the participants in this study.

How was age and experience associated with quality of counselling? Age does not necessarily translate to experience in HIV field. Some younger people could have more HIV counselling experience compared to those older than them?

We agree with the reviewer and sought to differentiate age from experience in FGDs. Most participants in FGDs treated the terms as synonymous or considered them highly correlated. The quotes appropriately reflect this fact.

How does home testing create suspicion? How is it conducted, is it not home to home or is specific homes which could raise suspicions among members?

Participants were asked about their preferences for, or reservations about, homes as potential testing locations; no other restrictions were imposed. Concerns were voiced that neighbors would know about their testing for HIV. This is clarified in the manuscript.

Rework on conclusion
Can the authors provide study limitations?

We modified the conclusion in response to comments by all 3 reviewers. The study limitations were included in the original submission; they are now identified with a separate subheading.