Author's response to reviews

Title: Community views about routine HIV testing and antiretroviral treatment in Botswana: signs of progress from a cross sectional study

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Author's response to reviews:

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Dear Anita Makri

MS: 6057374911207164
Community views about routine HIV testing and antiretroviral treatment in Botswana: signs of progress from a cross sectional study

Thank you for sending the comments of the three reviewers about this paper. We are grateful to all of them for their comments and we have revised the paper accordingly. Details of our responses to each comment follow below.

Two of the reviewers requested additional explanation and information so inevitably the revised paper is rather longer than the previous version.

We have mentioned the ethical committee review at the beginning of the Methods as requested.

We trust the style of written English is now acceptable.

Regards
Anne Cockcroft

REVIEWER 1: Shan Naidoo

Discretionary revisions

Point 1
I suggest that consideration be given in explaining how informed consent was asked for and given. This may be important to other researchers who embark on similar research!

Point 1 response
We have added a sentence in the Methods to explain how the interviewers asked for and received informed consent.

REVIEWER 2: Hilary Curtis

General

General point
An interesting report which is reassuring in so far as it shows high levels of awareness and support for
Botswana's RHT and ART programmes, while highlighting some specific issues such as travel distances and waiting times. The data presentation and discussion is problematic particularly in relation to gender issues. For example results have been weighted to census data by rural/urban/capital location but have not been adjusted for the undersampling of males, especially employed men, which is presumably a more significant source of bias, and in most cases are not stratified by sex.

General point response
The issue about undersampling of males and whether the results should be adjusted for this is covered in the response to a point from Reviewer 3 (Sheri Weiser). The issue about stratification of the findings by sex is covered in response to specific points that follow and in the revised paper we have presented additional stratifications by sex, as well as modifying the discussion about gender issues.

Major compulsory revisions

Point 1
The Abstract is misleading as regards the relationship between HIV testing and partner violence: taken together, the mentions of partner violence in the Abstract Background and Abstract Results and the statement in the Abstract Conclusions that "We found little evidence of problems" seem to imply a positive finding that being tested did not lead to an increase in violence. However, as the Discussion section of the full article acknowledges, the cross-sectional design means no conclusions could be drawn on this point.

Suggested amendments:

Replace "We found no association between being tested and experiencing partner violence within the past 12 months" with "Experience of partner violence was associated with believing oneself at risk of HIV, which was in turn associated with having had an HIV test within the past 12 months" in Abstract Results.

Delete "We found little evidence of problems with RHT in practice" in Abstract Conclusions.

Point 1 response
We take the point that in a cross-sectional study the direction of causality of relationships can be difficult to establish. We have deleted from the Abstract Results the sentence "We found no association between being tested and experiencing partner violence within the last 12 months". However, we feel the suggested alternative sentence could be misleading and imply that in fact there is an indirect association between experiencing partner violence and being tested for HIV and in fact we did not find evidence of this. Instead, we have added, earlier in the Results section of the Abstract, the sentence "Those who had experienced partner violence within the last 12 months were more likely to think themselves at risk of HIV infection."

We have deleted the sentence "We found little evidence of problems with RHT in practice" from the Abstract Conclusions. As the first sentence to the Abstract Conclusions we have added "Public awareness and approval of RHT was very high."

Point 2
The reporting and discussion of respondents' sex and partner violence is inadequate, given the huge global significance of gender injustice as a determinant of vulnerability to HIV. As a minimum, the proportion of respondents who had experienced partner violence should be given separately for males and females - in the review draft it is not reported at all. The discussion should address the extent to which partner violence (in multivariate analysis) accounts for the association (in univariate analysis) between sex of respondent and perceived HIV risk.

Point 2 response
In the revised paper we have included information about the proportions of male and female respondents who reported experiencing partner violence in the last 12 months. The association between sex and perceived HIV risk was not quite significant at the 5% level in univariate analysis (OR 0.81, 95% CI 0.66-1.01). There was very little effect on the association between sex and perception of HIV risk when other variables, including partner violence, were taken into account, and the 95% confidence interval of the adjusted OR still included unity, so we therefore did not include sex in the final model from the multivariate analysis. If we stratify by partner violence, this makes almost no difference to the association between sex and perceived HIV risk (weighted OR after stratification 0.82, 95% CI 0.66-1.01). In the revised paper we have explained in the text that the univariate association between sex of the respondent and perceived HIV risk just failed to reach significance at the 5% level, and did not become 'more significant' in the multivariate analysis.
Point 3
Data in table 3 should be presented separately for male and female respondents to give a better picture of the demographics and likely representativeness of the sampling, eg to clarify the unhelpful statement in the text that "some" employed men were included.

Point 3 response
We have revised Table 3 to show the information for men and women separately. We have revised the text about the Table and included information from the Botswana census (2001) about rates of employment among males and females, and how these differ from the rates in our sample.

Point 4
Discussion of the determinants of having an HIV test should address the likelihood that the reason why many respondents visited a government facility was because they believed themselves at risk.

Point 4 response
We cannot say how many of the people who visited a government health facility within the last 12 months did so because they believed themselves at risk. We did not ask this question. However, we have added a sentence in the Discussion to point out that the association between visiting a government health facility in the last 12 months and being tested for HIV may be partly because some people visited a government facility because they thought themselves at risk and wanted to be tested for HIV.

Point 5
The actual number of people who believed they had been tested without consent should be stated. This is unclear as the table shows 52 people not asked about testing believed themselves to have been tested but the text says this figure includes "some" who were not asked because they'd attended the health facility specifically to request testing.

Point 5 response
There were two separate questions: the first asked the respondents (who had visited a government facility within the last 24 months) if they were asked about having a test for HIV when they visited the government facility, and the second asked if they believed they were tested. There were 52 people out of the 1232 who visited a facility who said "no" to the first question and "yes" to the second question. This is the maximum number tested without specific consent.

For some of these people, their later response to a question about being tested for HIV (anywhere) within the last 12 months suggested they may have gone to the government facility for VCT: in rural communities VCT is undertaken in the local government clinic. Some people who went for VCT apparently responded that they were not asked about testing because they themselves had asked to be tested. If we consider only people who visited a government facility within the last 12 months, 52 said they were not asked about testing but they were tested. Some 20 of these 52 people said, in response to a later question, they were tested through VCT in the last 12 months; this supports the idea they went to the government facility to request VCT.

In the revised paper we have expanded the explanation about why we believe that at least 20 of the 52 people apparently tested without consent went to the government clinic specifically to request testing.

Minor essential revisions
Point 6
RHT is used as an abbreviation, at least in the Abstract, but not included in the List of Abbreviations.

Point 6 response
We have added RHT to the list of abbreviations.

Point 7
Table 6 shows 846/1529 participants had been tested in last 12 months but the last 5 rows give 836 rather than 846 as denominator.

Point 7 response
This is because 10 of the people who reported they were tested in the last 12 months did not give a response to the question about where they were tested. We have added a footnote to table 6 to explain this. See also the response to Reviewer 3 about missing data.
Discretionary revisions

Point 8
The paragraph on page 8 relating to satisfaction with government clinics is unnecessarily long-winded. The third and fourth sentences could be shortened to "Nearly all those who had visited a government health facility were satisfied or very satisfied with the visit (91.6%, 1130/1233 of those visiting within the last 24 months and 91.8%, 707/771 of those visiting within the last three)." The remainder of the paragraph could be amended on similar lines.

Point 8 response
We have amended the paragraph as suggested by the reviewer.

Point 9
You may wish to discuss the implications of people who believed they had been tested for HIV "when they simply had blood taken and were given the results of a different type of test". Presumably, since they have not been given a positive HIV test result, these individuals assume that they are HIV negative. Even if the numbers involved are small this may have public health implications in a high prevalence population.

Point 9 response
We have added a sentence to the Discussion to note that it is important that people should not believe they have tested negative when they have not actually been tested.

Point 10
The sentence "More than half the respondents said they talked about ART in their family "often" or "seldom" would be easier to understand if it just said "More than half the respondents said they talked about ART in their family." As currently written the reader needs to refer to table 8 in order to discover that "never" was the only other option given.

Point 10 response
We have amended the sentence as suggested by the reviewer.

REVIEWER 3: Sheri Weiser

General

General point
In view of recent recommendations to expand routine testing in many international settings, it is critical to better understand Botswana's experiences with this policy. As this paper is one of the first to examine actual experiences with routine testing in Botswana, it provides an important contribution to the literature. Nevertheless, there are several important limitations that should be addressed to strengthen this paper, and these are outlined in detail below.

Response to general point
We thank the reviewer for noting the importance of the paper. We have addressed the limitations noted by the reviewer in response to the specific points raised.

Major compulsory revisions

Point 1
There is much controversy in the literature over the definition of routine testing, and specifically the differences between what is meant by "opt-out testing", "routine testing", and "routine offer testing". There is also significant controversy over how routine testing has been implemented in Botswana--i.e.: whether they have followed an opt-out approach (informed consent is assumed if the patient does not explicitly refuse the test) versus an "opt-in" or "routine offer" approach where a more explicit informed consent process is required. Consequently, it is critical for the authors of this paper to define what they mean by routine testing, and how they phrased the question to participants. Without a clear understanding of this, it is not clear exactly what policy respondents are in favor of.

Response to point 1
The question we asked was "Have you heard about routine HIV testing in government health facilities?"
Most respondents (78%) said they had heard of routine HIV testing and went on to respond to a question about what they thought of this policy. For those respondents not certain about what the routine testing was, the interviewers gave them following explanation of routine testing:

"Routine HIV testing means that when somebody attends a government health facility with some kind of illness or for a routine check-up they are offered an HIV test. They have to give their consent to have the test and have the option of refusing. If they test positive they are offered counseling and appropriate treatment as necessary."

This explanation describes a "routine offer" RHT approach, the official policy in Botswana.

Thus, about a quarter of respondents (those who had not heard of RHT already, or were not sure what it was) gave a view specifically about a "routine offer" approach of RHT. The majority of respondents responded based on their own understanding of how RHT is practised, and some of them may think it is more like an "opt-out" arrangement.

We have added some information in the Methods section of the paper to describe more fully how we asked about RHT. In the Discussion we have discussed what this means in terms of people's approval; people approved a "routine-offer" approach at least, and some may even have approved an "opt-out" approach.

**Point 2**
The authors claim that they set out to better understand aspects of the RHT program including whether the program is coercive, is associated with partner violence, and whether it drives people away from health services. Yet, they have not clearly answered many of these questions.

**Point 2 response**
See our responses to the specific points under points 2a, 2b, 2c.

**Point 2a**
The authors do report data on the proportion of people "asked about testing", and also state "a few not asked about testing thought they were tested". They should be more clear about what this means (i.e.: were the former offered a test, and were the latter group tested without their consent), and they should specify whether they asked participants directly about informed consent. If they did not ask explicitly about informed consent, the authors need to be more careful about what to infer from this data.

**Point 2a response**
See also our response to point 5 of Reviewer 2. As we explained in our response to Reviewer 2, there were two separate questions: the first asked the respondents if they were asked about having a test for HIV when they visited the government facility, and the second asked if they believed they were tested. The first question allowed us to determine how many people were offered an HIV test. Of those offered a test, most (84%) said they were tested. There were 52 people out of the 1232 who visited a facility within the last 24 months who said "no" to the first question and "yes" to the second question. This is the maximum number tested without specific consent.

We have added further explanation on the point about being asked about testing (offered testing) and being tested, both in the Results section and in the Discussion.

**Point 2b**
While approximately half of respondents said that they had visited a government health facility over the past 12 months, it is not clear from this information how often people avoided government clinics for fear of being tested. It is possible that the other half of participants had reason to go to a health clinic but avoided it for fear of testing. Among those that had been to a health clinic, it is possible that they did not go as often as they felt they should have for fear of being tested. Yet based on the fact that approximately half of participants had simply attended a government clinic over a 12-month period, the authors conclude "we found no suggestion that people might avoid using government facilities for fear they might be coerced into being tested for HIV" (page 16). Again, the authors need to clarify their findings and should also be careful about what they conclude based on their findings.

**Point 2b response**
Our conclusion that "we found no suggestion that people might avoid using government facilities for fear they might be coerced into being tested for HIV" is based on more than one finding. In fact, as we report in the paper, 50% of respondents had visited a government health facility for their own health care within the last 3 months, 75% within the 12 months, and 81% within the last 24 months. This represents a high use of government health facilities. Not reported in this paper, we also asked people about their use of private
health facilities, and this was much lower: 5% in the last 3 months, 10% in the last 12 months, and 12% in the last 24 months. We asked people why they chose one or other type of facility. None of those who used private facilities gave as a reason that they wanted to avoid HIV testing in a government facility.

As reported in the paper, when asked where they would go if they had an illness they thought could be due to AIDS, some 87% of respondents said they would go to a government clinic, and a further 9% said they would go to a centre for VCT. Many of those who said they would go to a government clinic said it was because they would get testing for HIV there.

Put together with the high rate of approval for RHT, we believe the above findings do support a conclusion that people in Botswana are not avoiding government clinics for fear of being tested for HIV. We have therefore retained the conclusion, spelling out more clearly what it is based on. We have added some information about use of private facilities, and reasons for their use, in the Results section.

Point 2c
Finally, while the authors did find that there was no association between having experienced partner violence and having been tested, this does not provide direct evidence that routine testing is not associated with partner violence. It is possible that women who have experienced violence are less likely to visit clinics in the first place, but at the same time women who are tested are more likely to later experience partner violence. If this were the case, there would be no association between violence and testing, but this does not imply that testing does not lead to increased violence. The authors did not ask directly whether participants experienced any partner violence after being tested under routine testing. My main point here is that while all of the above findings are valuable, the authors should be careful about drawing conclusions beyond their data.

Point 2c response
We have re-worded our conclusions about the lack of association between the experience of partner violence and HIV testing to explain that while this does not give support to the idea that women who are tested for HIV are likely to experience partner violence as a result, nor can it rule it out in this cross-sectional study, for example for the reason described by the reviewer.

Point 3a
The authors should give more details on their sampling for the quantitative survey. They describe a "last stage random" sampling process, but that is inconsistent with having selected 100 contiguous households. They therefore need to further clarify and justify (a) why they choose 100 contiguous households instead of choosing households at random and (b) if household is the lowest unit of analysis (in which case their statements about the last stage being random is incorrect) or if the last stage involves sampling participants at random from the 100 households.

Point 3a response
This is a cluster sample; the "last stage random" refers to selection of the enumeration areas after stratification. Taking a random starting point within the enumeration area, the field team fans out to cover 100 households. There is no sub-sampling within these 100 households. This is a deliberate sampling choice, supporting multi-level analysis, where characteristics of the community or site are related to the household level information. For example, this might include information about the distance to the nearest clinic, the type of terrain, or the views of the community leader. We have reported on findings using this sampling and analysis strategy in many different contexts.

We have re-worded and clarified the description about the sampling in the Methods section, and added some recent references to descriptions of the use of the sampling and analysis strategy.

Point 3b
As a separate issue, they also need to clarify how they constructed the weights. If they constructed weights based on inverse probability of selection to the sample, that would follow standard practice, but given the information they provide, it is hard to know if that in fact is what they did.

Point 3b response
Table 1 and the paragraph in the text that goes with it explain how we calculated the weights. We did not construct the weights based on inverse probability of selection to the sample. The weights we calculated accounted for the difference in urban/rural distribution between the sample population and the actual population. We did this weighting because there were likely to be differences between urban and rural populations in regards to the outcomes we were measuring.
We have added some further information in Table 1 to make it more explicit how the weights were calculated.

Reviewer 2 suggested adjusting the results to allow for the under-sampling of males (since 65% of our sample were women); in effect this would mean weighting the sample to allow for the excess of women in the sample compared with the actual population (where we would assume approximately 50% of women). We have not done this, but we do allow the readers to make their own judgement about this, by describing any important differences in response between men and women and giving the findings for men and women separately (for example Table 3 now shows the characteristics of men and women separately).

Point 3c
In addition, the authors should specify whether they selected enumeration areas from all districts of Botswana, or from a subset of districts.

Point 3c response
As explained above, the original sample of 25 sites covered all districts of Botswana; the 13 sites in this study were an approximately 50% sample of the larger sample and did not include all districts. This is now explained in the revised and expanded paragraph on sampling.

Point 3d
To help the reader better understand how representative their sampling was, they should provide detailed information on response rates at the beginning of their results (including the proportion that refused, that were not available etc..)

Point 3d response
The field teams approached 2191 households. Of these, 632 (29%) had no one at home, 187 (9%) had no one over 18 years old present, and 87 (4%) declined the interview. This left 1285 households interviewed. We have added this information at the beginning of the Results section in the revised paper.

Point 4
The authors should give more data on the focus groups. How many participants were in each focus group, and how were they selected? Did they use structured or unstructured questions in the focus groups, and how were the qualitative data analyzed? Did they also ask focus group participants about routine testing? If so, some of this data should be provided as well, and if not, why not?

Point 4 response
Each focus group had 8-12 participants. They were selected from among the household respondents. At the time of the household interviews, respondents were asked if they would be interested to join a group to discuss the findings when the team came back to the community. The interviewers recorded contact details of people who were interested (separately from their responses to the household questionnaire) and on returning to the community with the key findings, they tried to make contact with the interested people to invite them to join the relevant focus group (adult male, adult female, or youth). The focus group guide included feedback of some key findings from the household interviews, with a series of questions and probes. For each focus group, the reporter recorded the responses during the discussion, then after the session prepared, with the facilitator, a fair copy of the focus group report. The focus group reports included recording relevant quotes. A small group of the researchers read through all the focus group reports and identified the themes emerging. The topic areas included ARVs (in particular difficulties with getting ARVs and any other difficulties for people taking ARVs), and choice of health care providers. The focus groups did not specifically discuss routine HIV testing, since the views about this seemed very clear from the household interviews.

We have expanded the paragraph about focus groups in the Methods section to include more details as requested by the reviewer.

Point 5
The authors should provide some details on missing data and on how missing data was handled.

Point 5 response
The tables in the paper give denominator information to show where there is missing data in relation to specific questions. Generally, the missing data rate was low. We have added footnotes to the tables to make explicit the missing data rate in relation to each piece of information presented.

Point 6
Page 6, 4th paragraph: The authors should better justify why they provide such detailed data on household socioeconomic status. Is it to demonstrate that their sampling reached vulnerable groups, since vulnerable groups may be more likely to suffer adverse consequences associated with this policy? Their rationale should be stated more explicitly. If there was not a clear reason for including this data, this data should be excluded from the manuscript.

Point 6 response
The data on household socioeconomic status were indeed included so that we could relate findings to socioeconomic status and explore any differences between vulnerable and less vulnerable households. We have added a note in the paper about why we considered household vulnerability an important variable to include in analyses about access to and experience of services.

Point 7
The authors should provide more data on how their variables for their multivariable models were chosen, and on how their models were constructed (as relates to results bottom of page 11, and tables 4 and 7).

Point 7 response
We examined univariate associations between the outcomes of interest and variables that we believed were likely, on the basis of previous work by ourselves and others, to be associated with the outcomes in question. We included in the multivariate analysis those variables significantly associated with the outcome in univariate analysis. For the logistic regression we undertook a step-down from an initial model including all the variables, to produce the final model. We have listed under the relevant tables the variables that were included in the original saturated models.

We have expanded the description about the multivariate analysis in the Methods section of the revised paper.

Point 8
Page 15, 2nd paragraph, 2nd sentence: It is not clear what is meant by "enough information from men". More information on sampling as discussed above would help the reader determine how representative the sample was. Based on the information provided, it is not clear whether there was truly a representative sample of men, or whether the men included in the study were more likely to be those who were unemployed, sick, or home for other reasons.

Point 8 response
We have compared the proportion of men in paid employment in our sample with the proportion in the population of Botswana from 2001 census figures. Among people aged over 20 years from the census, some 59% of men were in paid employment, compared with 50% in our sample, and some 37% of women were in paid employment, compared with 33% in our sample. We have included information about this in the revised paper, in the Results and Discussion sections.

Point 9
Page 19, 3rd paragraph: If the authors are to bring in data from focus groups on the association between ART and sexual risk-taking, they need to better contextualize the data in the literature. For example, there is data from elsewhere in Africa showing that there is no increase in risky sexual practices associated with uptake of ART, and that there may even be a decrease in risky sexual practices. (see Bunnell et al., AIDS, Jan 2006).

Point 9 response
We have added this to the Discussion, including the reference to the recent paper from Bunnell.

Minor essential revisions

Abstract:

Point 10
Results, 2nd paragraph. In the second sentence, the authors state "nearly half were tested", and later in the 4th sentence state that "55% had been tested for HIV." This is confusing to the reader. In the 4th sentence, the authors should clarify that this is 55% of the entire sample, rather than just those that had visited a government clinic.

Point 10 response
We have clarified this in the Abstract, as suggested by the reviewer.
Methods:

Point 11

Page 5, 2nd paragraph, 1st sentence: What does CIET stand for?

Point 11 response

CIET stands for Community Information Empowerment and Transparency. It is a group of non-profit organizations, institutions and trusts working internationally, including in Southern Africa. Further details are available from the CIET website at www.ciet.org. To deal with this point, we have added CIET to the list of abbreviations given in the paper.

Results:

Point 12

Page 7, 4th paragraph: 4th sentence beginning with "The survey took place": This information is repetitive, and belongs in the methods and not in the results. The authors can delete this sentence here.

Point 12 response

We included this information at this point to stress that the reported visits to government health facilities within the last 24 months took place after the policy of RHT was introduced. We have shortened the sentence in question, but left in the information that the visits were all since the RHT policy was in place.

Point 13

Page 8, second and third paragraphs: Are these results from structured or unstructured questions?

Point 13 response

We have added further clarifications in these two paragraphs about which responses were to open questions and which to closed questions.

Discussion:

Point 14

Page 15: 1st paragraph, 4th sentence (beginning with "This figure is probably...). This sentence is not clear. Whether people have been recently tested should not influence the "offer-rate", but should affect only the testing rate. In addition, people who were not currently sexually active, but who have been sexually active in the past should be among those offered a test at least once. Given that this sentence does not add much, and seems incorrect, it should be deleted.

Point 14 response

We have deleted the sentence.

Point 15

Page 19, 2nd paragraph. The authors are mixing results and discussion here. The last sentence of this paragraph belongs in results.

Point 15 response

This sentence is an illustrative anecdote, rather than strictly a finding from the household survey, but we have moved it to the Results section as suggested.

Tables:

Point 16

Table 5: The first row and column is not clear. Is this the proportion offered a test? The authors also need to clarify here the difference between tables 5 and 6, i.e.: Table 5 shows all people tested among those that visited a government clinic, and table 6 shows all people tested among the entire sample. It may clarify things if the authors combine the data from Tables 5 and 6 into one table, since both tables provide descriptive statistics on people's testing experiences.

Point 16 response

In Table 5 we have added "offered a test" to clarify the meaning of "asked about being tested". We prefer to leave Tables 5 and 6 separate as we believe combining them would be confusing for readers. Table 5 is specifically about experiences around testing in government clinics, whereas Table 6 is about plans to be tested and actual testing in the last 12 months, wherever that testing happened.

Discretionary revisions
Point 17
Discussion, Page 15, 2nd paragraph: While it is not surprising that women were more likely to visit government clinics based on their higher use of VCT and health services in Botswana and elsewhere, it is surprising that women were more likely to be tested once they presented to government clinics (one would think that routine testing would eliminate this gender difference among those visiting health clinics). More discussion of this interesting finding would be valuable.

Point 17 response
Among those visiting clinics, women were more likely than men to be offered testing and more likely to be tested if offered. It is not surprising that women were more likely to accept the offer of testing, given their higher rates of uptake of VCT for example. But it is not clear why women were more likely to be offered testing in the clinics. This could perhaps be a reporting bias among the men interviewed, but it remains unexplained. We have expanded the Discussion about this a little.

Point 18
Table 7: The finding that people who were in favor of routine HIV testing were more likely to get tested is an important finding, and worthy of more elaboration in the results and discussion sections.

Point 18 response
We have highlighted the finding in the text describing Table 7 and we have added something about the finding in the Discussion.