Author's response to reviews

Title: HIV Risk and Associations of HIV Infection among men who have sex with
men in Peri-Urban Cape Town, South Africa

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Author's response to reviews: see over
Reviewer's report
Title: HIV Risk and Associations of HIV Infection among men who have sex with men in Peri-Urban Cape Town, South Africa
Version: 3 Date: 19 July 2011
Reviewer: Rachel Jewkes
Reviewer's report:

Thank you for inviting me to re-review this paper. I have put a considerable amount of time into reviewing this paper and I am frankly not very satisfied with many of the responses given by the authors in the last rebuttal letter. I have suggested a number of things that would strengthen the paper and I would like to see these done. There remain some outstanding problems and these should be corrected before the paper is published.

**Thank you very much for this review and we have worked to improve the paper in response to these data.

1. Use of “data not shown” – this is reserved for data not presented in tables or text – it should be removed from the HIV prevalence paragraph and human rights violations paragraph where it appears when data is shown

** Thank you and this has been completed.

2. The sentence on the age-race “trend” for HIV prevalence being more pronounced for those older/younger than the average age is very unclear

** We agree that this sentence was unclear and it was removed.

3. Race in the paper – race is a very important variable associated with HIV prevalence in South Africa and it is discussed with respect to recruitment venue and not mentioned thereafter. Was it a variable adjusted for in the HIV prevalence models? This should be done if it hasn’t been

** We have added this sentence to address this comment

_Because men were recruited by township venue, and in each of the Black and Coloured Townships men were all of the same racial/ethnic group, we did not adjust for race in this analysis, but have presented findings by Township ethnic majority group._

4. Statistical analysis – this does not describe the modelling for the analysis on bisexuality

** Thank you and we have added the following section

_Bisexuality was defined as having at least one male and female sexual partner in the preceding 6 months. A bivariate analysis was conducted using bisexuality as the dependent variable. Factors_
significantly associated with bisexuality were included in multivariate logistic regression model which also included key demographic characteristics including age, sex, and rural or urban origin, to assess independent associations with bisexual behaviour.

5. Could the wording of “no reported unprotected anal intercourse” be changed to make it positive e.g. “protecting all anal intercourse”

6. Multivariable model of factors associated with HIV – the candidate variables are presented in the results but not the model’s findings – these should be included.
   **Thank you and this has been addressed.

7. Discussion the last sentence of the first paragraph is untrue and has not been substantiated in this paper or other research. It states that [HIV] risk is “universally concentrated among these men across generalised epidemics of sub-Saharan Africa”. I am sure the authors don’t mean to claim that men who have sex only with women don’t have HIV in SSA but this is what the sentence current says.
   ** Thank you  and we agree that prevalence measures for hidden populations of MSM are problematic.  Rather than revising the entire background section again, however, we have added short section to the 4th paragraph of the introduction to highlight the challenges faced in comparisons of prevalence.

While analytic comparisons using direct or indirect age standardization have not yet been done to the knowledge of the authors, these data along with other recent descriptions of predominantly young MSM suggest that HIV risks and rates are consistently high in risk is universally concentrated among these men across the generalized epidemics of Sub-Saharan Africa[2].

The following points have not been adequate addressed in the revisions:
“I would suggest including the statistic of 0% consistent condom and water based lubricant use in the abstract” – the explanation for not having done this simple request is inadequate

** Thank you and this has been completed.

First sentence of para 4 – this isn’t very scientific – what is ‘multiple times higher’? – there is a bit of mixing of citations of prevalences from different age groups etc – the <10% is for the general population over age 2 and its not comparable with any of the prevalences cited that are not from this age group
I think this introduction shows the problem with the notion of ‘prevalence’ when used in this type of research. There isn’t one study cited where a true population prevalence has been derived. All of the samples are volunteer, snowball, over-represent Whites or have some other design feature which makes it impossible to properly compare the proportion HIV+ between them. The way this
is done is very unsatisfactory and I want to suggest that the authors revise the introduction again. I would like to suggest that the first address the issue of proportion HIV+ in different MSM study samples and devote one para to this showing the range and commenting that because of the methodological issues between studies these are essentially non-comparable and are NOT population prevalences. Then I would suggest devoting a paragraph to what has been found associated with HIV in these studies.

** We have added the following section to the text to address this issue. **Comparisons of prevalence across sampling designs and time frames are always problematic, but this is particularly challenging for hidden and hard-to-reach populations, where behaviours are stigmatized, and for populations for which size estimates are uncertain. All of these potential sources of measurement error pertain to MSM in African settings. Nevertheless, enough data has emerged to suggest significant HIV disease burdens among these men.**

Please note that the discussion around reference [6] needs to be differently handled as it’s the association between MSM and HIV – this statistic isn’t available from other studies as they are just “about MSM”

Questionnaire – there is not enough information about what was actually asked and where the questions come from. E.g. did you ask about ‘transactional sex’ if so do you have any idea what men made of the question? Its important for interpretation of findings to know that they were standard measures, we cannot just assume that because the questions have been asked in many countries that they are good questions and valid.

**Thanks for this. In each setting where this work has been completed, formative work has been done to ensure that the wording of the surveys is appropriate. Moreover, in working with the MSM community, we worked to ensure appropriate translations of these terms to make them as valid as possible. We added the following sentence to the text: Transactional sex was defined as whether men reported having traded anal sex with a non-regular partner for money, drugs, food, shelter, or transportation.**

--- I want to know how the question was asked
The multivariable model [of bisexuality] is inappropriate here as what it models is ‘factors associated with being bisexual’ – it’s a putatively causal model. If you want to know whether condoms or disclose or HIV etc are associated with bisexuality after adjusting for the social and demographic variables you need to build models of bisexual practices that have the one risk behaviour (or HIV) of interest and the social demographic variables.

**Thanks for this. We have focused not on associations of bisexuality; rather, the analysis has focused on associations of bisexual practices in terms of reporting both male and female sexual partners. The analyses were driven by a priori framework of associations rather than as exploratory analyses. We then completed stepwise regression to define optimal fit of the final
model. Akaike’s Goodness of Fit criteria were used to define good fit of the final multivariate model.

You must do this separately for each risk behaviour/HIV.

**Level of interest:** An article of limited interest

**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