

Author's response to reviews

Title: The effect of participant non-response on the HIV prevalence estimates in a population based survey in two informal settlements in Nairobi city

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Author's response to reviews:

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Editorial Team

Population Health Metrics Journal

Re: MS: 2133964686287578- The effect of participant non-response on the HIV prevalence estimates in a population based survey in two informal settlements in Nairobi city

Dear Editor,

In response to your email of May 6th, 2010, we are pleased to submit a revised version of the above mentioned manuscript with point by point responses to the comments raised highlighted in track changes mode. Other than the changes requested, we made some additional changes in the text and tables. This came about due a change in the effective sample size. At the time of sampling, 5004 individuals were sampled as reflected in the initial version of the paper, however with the benefit of additional residency status updates for all residents of the area, it was noted that 237 individuals who were sampled had actually left the area at the time the sample was drawn although this had not been yet reflected in the NUHDSS database which was used as a sampling frame. Because these individuals (237) had zero probability of being contacted, we decided to revise that part of the manuscript accordingly. This resulted into some minor though numerous changes in some of the tables as highlighted in yellow. The changes do not change the direction and conclusions of the earlier results but rather some minor changes in the magnitude of the figures. We are really sorry about this but we felt that it was the right thing to do.

Comments by editorial team:

Editor's comment:

(1) Some more discussion of details and potential limitations in modeling approach is needed. Specifically, the limitations should refer to the key assumptions in the model implied by the multiple imputation approach and reflect on how deviations from these assumptions would affect the conclusions. The authors should also say something about how the multiple imputation approach relates to other approaches that have been used (e.g. the logistic regression approach used by Mishra and colleagues). In the methods (p10) the authors should say more about how results were combined across the imputed data sets, specifically how they computed confidence intervals appropriately accounting for uncertainty across the imputations.

Response to comment

A description of potential limitations of the modelling approach has been added to the limitation section "The multiple imputations used assume that data missing are missing at random (MAR). In real life this might not be the case and the predictions might not be as good".

A statement on how the multiple imputation approach relates to other methods has been added "The ice program does not assume multivariate joint distribution as do other multivariate approaches of handling missing data, this makes it flexible and more appealing to use."

A statement on how the results were combined across the imputed data sets has been given. The last bit on the methods section now reads thus: "The ice command automatically creates and combines the multiple imputed data files to get a single data file for a given category. From the combined file, prevalence estimates and corresponding confidence intervals for proportions were derived. The overall corrected HIV prevalence estimate (observed and imputed) was taken to be a weighted average of the imputed and observed prevalences and an overall confidence interval for the resultant prevalence (proportion) was also derived".

Editor's comment:

(2) Authors should make available somehow or delete (as it does not seem essential) the reference to a report that is not available online or in the published literature [Ref 19].

Response to comment

This report is available online and can be accessed at:
<http://www.aphrc.org/insidepage/page.php?app=downloads&articleid=285>

We have instead deleted reference 21 and the related text, which refers to the report for the HIV project which is not yet available online.

Editor's comment:

(3) A few typos noted: p4, line 3: delete "to" in "do not to participate" p6, line 7 is

where the stray [0] noted by reviewer 1 appears. p9, middle: "Mobility data were" not "was", "as they were derived" not "it was", "considered to be highly mobile if he or she" not "they" p11, middle "the less likely he or she was to be contacted" not "they were"

Response to comment

Thank you. The errors have been corrected in the text.

Our revisions:

Methods section: Text added:

“A total of 5004 individuals were sampled. However after the study and with the benefit of extra DSS updates of the residency status of individuals under surveillance, 237 individuals were found to have not been legitimate residents at the time the sample was drawn. These have thus been excluded from the overall sample leaving a total of 4767”.

These changes have affected bits of table 1, part of table 2, table 3 and table 5 and the changes are highlighted in yellow. Corresponding changes in the text have also been effected and highlighted in track change mode.