Reviewer's report

Title: Implications of the HIV testing protocol for refusal bias in seroprevalence surveys

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Reviewer: Patty J Kissinger

Reviewer's report:

While the authors have been responsive to some of the comments, they have been unresponsive to others. The real issue with this paper is whether the response bias that they report is applicable to population-based studies (as the authors wish to extrapolate). In the base-case scenario, they would have tested everyone anonymously and then examined the prevalence rates that are generated from the non-response in VCT and determine the bias. They attempt to simulate this by offering the choice of testing with results/PTC, testing with no results/PTC or refusal. The credibility of their report hinges on whether this choice truly simulates refusal bias in a population-based survey. The motivations are likely very different. They acknowledge this but comparing testing in a hospital (since people are already there) to population surveys (where people may need to seek testing) does not seem comparable. The authors rebutted that they do not care about the true prevalence, but rather the relative prevalence, but yet we still need to know if the response bias in a hospital-based survey under these conditions really represents what we would find in population-based survey. This was also brought up by another reviewer. In my opinion, they authors have not been convincing in providing enough evidence to support this. I still think they should modify their interpretation to state that this only represents the potential bias from hospital-based surveys.

Unfortunately, the paper is not well-written and the purpose is still not clearly stated. This makes it not only difficult to read, but also difficult to understand what the authors wish to say. The authors really need to tell the audience what the practical significance is and have a statement that says “The purpose of the study is......”. For example, on page 4 first para, 4th and 5th sentences. I think the authors want to say HIV prevalence rates rather than infection. Why not just say that rapid testing has advanced our ability to test and provide results to participants in the same visit and this may serve as a barrier for some. This study examines how many people in a hospital setting would refuse because of not wanting their results. The first sentence of the background is vague and I think they mean to say that HIV prevalence is easier to obtain with rapid testing (as is stated later in the background).

There are other smaller issues that they have not really addressed such as how they can get a relative risk from a cross-sectional study. They say they can, but I would need reference for their assertion.
None-the-less, the data are of value since they demonstrates how many persons might refuse if they were not offered the option of not getting their test results. This, by itself, is noteworthy because it helps identify barriers to testing. It is very lofty to say this study, in one hospital can determine population-based refusal bias.

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.