Reviewer's report

Title: Evaluation of HIV Testing Algorithms in Ethiopia: The role of the tie-breaker algorithm and weakly reacting test lines in contributing to a high rate of false positive HIV diagnoses

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Reviewer: Bianca Bruzzone

Reviewer's report:

The study is an interesting and thorough analysis of the performance of different diagnostic algorithms for HIV testing in the setting of a developing Country with a >1 seroprevalence in the general population.

The sample size was large enough to draw significant conclusions. The paper is well written with only minor imperfections.

On the whole the authors’ efforts at offering an extensive and accurate analysis of several possible algorithms can deservedly add to the literature on the subject and become a useful help to individuate the best possible diagnostic algorithms in similar settings.

One negative aspect of the article is its length, mainly due to the meticulous description of all the different comparisons, which makes the lecture long and tiring.

However, making the work more concise could negatively impact on its exhaustiveness, so that we should be cautious on that recommendation. A way to help resolving this defect could be extrapolate all the theme of the impact of leishmania infections on HIV testing, maybe by submitting that part in another separate article, giving only a limit in this paper.

Finally, an up to date adjustment of bibliography would be welcome.

Level of interest: An article of importance in its field

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 interests' below