Reviewer's report

Title: A meta-analysis of the performance of the PimaTM CD4 for point of care testing

Version: 2 Date: 20 March 2015

Reviewer: david kelso

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Overall, this is an excellent attempt to bring together what is currently known about Pima. The subset analyses are very interesting.

Minor essential revisions

1. It would be helpful if some of the statistics were better explained so we understand why they are included. What is the difference between false positives/negatives and upward/downward misclassifications. They seem like the same thing.

2. Why is percent similarity used in addition to percent bias? Differences from 1 do not seem as large as differences from 0, although they both may be significant.

3. On the other hand, why were NPV and PPV calculations not included?

4. It would be helpful if the authors summarized all the measures that lead them to their conclusions. The strength of the report is the multiple ways in which performance was measured. The weakness is in explaining how they came to their conclusions.

Major compulsory revisions – errors in interpretation

5. The authors’ conclusions as to the clinical acceptability of their findings are questionable, and are not supported by referenced cost-effectiveness or outcome evidence. What is the basis for making the statement that “The Pima CD4 may be recommended using venous-derived specimens for screening (100cells/µl) for reflex CrAg screening; and for HIV ART eligibility at 350cells/µl and 500cells/µl thresholds using both capillary and venous derived specimens.” Some of the measures, like a misclassification rate of 9%, with a false positive rate of 6% might be very costly. Screening tests should, in general, have excellent specificity, and numbers less than 90% would be judged problematic regions with low HIV prevalence.

6. Why did the authors conclude that venous blood was acceptable but capillary blood was not? Where does one draw the line between specificities of 89 and 82%? Why not draw the line at 90%?
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