Author’s response to reviews

Title: Task shifting for point-of-care early infant diagnosis: a comparison of the quality of testing between nurses and laboratory personnel in Zimbabwe.

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Reviewer reports:

Reviewer #3: I am pleased to see the changes made by the authors which have strengthened this article, but I have only two minor comments for addressing, outlined below.

Comment 1. ABSTRACT. The methods section of the abstract has not been updated. The following should be deleted and appropriate text inserted (as has been updated in the main manuscript) - "this quasi-experiment"

Response 1: Corrected as necessary

Comment 2. RESULTS AND DISCUSSION.
As with table 2, please find and replace all the "non-laboratory" personnel and replace with "nurses" - for specificity.
Response 2a: Corrected as necessary

PREVIOUS REVIEW Comment 7 (Major). You acknowledge that 6 of your sites had nurses, 2 sites had laboratory-trained staff, while the 2 had a combination.
Can you present a table that disaggregates how many tests were collected from each of these site categories (nurses only/ lab personnel only/ nurse and lab)?
Response 7a. Done in table 1 and 2
Could you also run a sub-analysis with these sub-categories as it would delineate confounding?, by stratifying your findings within these (naturally occurring) categories.
Response 7b. A sub analysis will not be possible because the proposed categories will be highly correlated with our main variable of interest "type of tester". So for example the nurses only category will contain only nurses as the type of tester and no lab personnel will be in the analysis.
You actually addressed this comment on sub-analysis, by your additional information placed in table 2. I however have a few concerns outlined below.

Table 2. You need a p-value for the "Success rate" [column 2], and a separate p-value for "IQC failure rate" [column 3]. The table is a comparison of proportions - to know if success rate, or failure rate are significantly different between groups (laboratory specialised, nurses only, and a combination). At present, it is not clear which column/outcome the p-values relate to.

If the two p-values are the same, as "Success rate" and "IQC failure rate" seem complementary outcomes, - place an explanatory foot note at the table to clarify this.

Response 2b: As coming out in narrative, the p-value is telling us if a test characteristic is causing a significant difference in the outcome of test. It is more like we have a nx2 table where we want to check if differences in a test characteristic are impacting on the outcome of test. For example the test characteristic type of tester is showing that it does not affect the outcome of test since p=0.354>0.05. Stated differently the IQC failure rate is independent of type of tester.

Table 2. Please note that the p-value for the combined group (nurses and lab-specialised personnel) are significantly different. You need to interpret and explain this in relation to your overall results, to show a critique to your own main finding.

Stated differently: If nurses tests are not significantly different from those of lab-specialised personnel, why would sites with the two categories have significant lower success rate/ higher IQC failure rates?

Response 2c: Interpretation and explanation added on the first paragraph of the discussion section.