Reviewer’s report

Title: Microbiology Investigation Criteria for Reporting Objectively (MICRO): a framework for the reporting and interpretation of clinical microbiology data

Version: 0 Date: 19 Nov 2018

Reviewer: Rajeshwari Nair

Reviewer's report:

The study entitled 'Microbiology Investigation Criteria for Reporting Objectively (MICRO): a framework for the reporting and interpretation of clinical microbiology data' was conducted to develop a checklist that will enhance the quality and scientific reporting of clinical microbiology data, increase data utility and comparability to improve surveillance, grade data quality, facilitate meta-analyses and inform policy and interventions from local to global levels. The authors identified an existing study registered in the PROSPERO system and reviewed the datasets published in this system to identify relevant domains for the checklist. These checklist items were reviewed and revised per consensus by involved personnel, which was not conducted per the Delphi system. Based on the final checklist items, the authors present a reasonable checklist that is recommended for use with other standard reporting guidelines such as STROBE. This checklist appears very relevant not only to LMIC’s and can be used to improve reporting of microbiological data on a global basis. With that said the checklist should be updated based on feedback from investigators using the checklist to conduct and report studies.

There are few deficiencies in the manuscript that would be relevant for readers. These should be addressed in the best possible manner before publication of the manuscript.

1. Although the authors did not use the Delphi system, it would still be relevant to know how important decisions were made on selection of domains and items for the checklist. Why was the non-malarial study used from the PROSPERO system? Who reviewed the 178 databases to identify data deficiencies or inconsistencies? How were people invited to be part of the decision making team? Were there intermediate processes that may have changed people's response on the importance of the item to be included in the checklist? What do the authors mean by biomedical scientists, were these bench science researchers, did you involve epidemiologists and statisticians? Were these team personnel from LMIC’s too?

2. It will be important to include access to a convenience sample in 'sampling strategy' of the checklist. Several times observational microbiology studies use existing sample repository. It is important know if these samples were readily available or collected from a sample of patients that were intended to be included in the study based on the research question.
3. If the intention of the authors is to use this checklist as a potential resource to conduct meta-analyses then it would be beneficial to create a scoring system based on the checklist. For example, a study conducted may get a star if the checklist item was met and none if not. These stars can be added up to identify the quality of the study to be included in a potential meta-analyses.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Not applicable

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Not applicable

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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