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: 12 Nov 2018

Reviewer: Michihiko Goto

Reviewer's report:

(General Comment)
Authors described their new proposal to set a standard for the reporting and interpretation of clinical microbiology data, based on their systematic review intended for non-malarial febrile illness in tropical regions. The manuscript is clearly written, concise, and covering essential components of clinical microbiology data reporting. Overall, I believe this is a very important companion to already existing framework, such as CONSORT or STROBE, and the relevance is not limited to low- and middle-income countries.

Authors are correctly pointing out that reporting variability and incomplete presentation of microbiology data are hampering critical review of existing literatures (especially when conducting systematic review), and making systematic and objective data collection to assess the burden of bacterial infectious diseases and antimicrobial resistance. These problems are important and frequently encountered also in outbreak/transmission reports as well.

(Specific Comments)
Line 104-105: I completely agree that this reporting standard should be applied not only to observational studies but to any clinical study involving microbiology results, and understand that authors specifically avoided to incorporate the term STROBE. However, it will give some challenge for dissemination plan of this new proposal. Do authors have a plan to submit this to existing dissemination initiatives such as EQUATOR network? Was it considered to approach both STROBE and CONSORT groups to make this "An extension to CONSORT and STROBE"? I think there is no precedence for this approach, but it may be worth considering due to broad relevance of this proposal.

Line 110-112: It appears authors largely followed toolkit from EQUATOR publication ("Guidance for developers of health research reporting guidelines"), but did not conduct Delphi exercise in pre-meeting phase (Line 192-193). Authors provided brief description of pre-meeting phase in Line 160-168, but there is no detail provided. Which component of Delphi exercise was followed and which was not? (e.g. anonymity or group discussants, staged questionnaires)

Line 118-124: The original systematic review protocol in PROSPERO included Africa, South Asia, China, Southeast Asia, and Latin America as target geographic area, but it appears authors included
studies from South and Southeast Asia when evaluating qualities of existing literatures. What is the justification for this limitation?

Line 133-158: Authors summarized results of their systematic review to assess quality of reporting in existing literature in this section. For the sake of transparency, it is ideal to provide summary table of these 123 studies (presumably authors have list readily available) as online supplemental material, just for relevant quality evaluation of included studies.

Line 160-168: Has pilot implementation been considered for proposed checklist?

Table 3: The list of items is comprehensive and well-summarized for culture-based microbiology results reporting. However, it covers very little for non-culture based microbiology and antimicrobial susceptibility testing, which middle-income countries are rapidly undertaking, not only high-income countries (good example is Xpert MTB/RIF). Since this guidance has wider application to diverse settings, I believe this checklist should incorporate some non-culture based methods to recommendations.

Table 3: Another item which authors should consider incorporating was strain identification within organism. This is overlapping area between this proposal and already existing STROME-ID. However, strain typing is becoming more accessible to many settings and commonly performed for many microbiology studies with public health relevance. If authors need to avoid overlap with STROME-ID, they can simply state "Strain subtyping methods should be reported according to STROME-ID" (although STROME-ID itself does not explicitly state how it should be reported).

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

Yes

Does the work include the necessary controls?
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Not applicable

Are the conclusions drawn adequately supported by the data shown?
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