

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

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| TITLE (PROVISIONAL) | Innovative COVID-19 Point-of-Care Diagnostics Suitable for Tuberculosis Diagnosis: A Scoping Review Protocol |
| AUTHORS | Yerlikaya, Seda; Holtgrewe, Lydia; Broger, Tobias; Isaacs, Chris; Nahid, Payam; Cattamanchi, A; Denkinger, Claudia |

VERSION 1 – REVIEW

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| REVIEWER | Matthew Akiyama Albert Einstein College of Medicine / Montefiore Medical Center, Medicine |
| REVIEW RETURNED | 15-Jul-2022 |

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| GENERAL COMMENTS | This protocol paper outlines a study that will address an important topic: Improving tuberculosis diagnostics by using technology and infrastructure generated during the COVID-19 pandemic. The methods appear rigorous and the strengths and anticipated limitations are stated clearly. |
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| REVIEWER | Lucy Hocking RAND Europe |
| REVIEW RETURNED | 25-Aug-2022 |

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| GENERAL COMMENTS | <p>It may be useful in the introduction to describe what the TB targets are for the TPPs so the reader has an understanding of what potentially new diagnostic methods need to achieve to meet these targets.</p> <p>Please clarify what is meant by 'donors' and 'advocates' in the objectives section.</p> <p>For the definition of POC, it may be helpful to state whether you are (or are not) including tests that patients can conduct themselves at home (self-testing), or whether you are only including tests that can be conducted by a healthcare professional as this will influence the scope of the review.</p> <p>Search terms you could consider adding in: portable (test/device); point-of-care; POCT.</p> <p>Please add in your inclusion/exclusion criteria for publication date. Will studies be excluded based on which language they are in?</p> |
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1's Comments to Author (Dr. Matthew Akiyama, Albert Einstein College of Medicine/Montefiore Medical Center):

Comment 1: *This protocol paper outlines a study that will address an important topic: Improving tuberculosis diagnostics by using technology and infrastructure generated during the COVID-19*

pandemic. The methods appear rigorous and the strengths and anticipated limitations are stated clearly.

Author's reply 1: Thank you for your positive feedback, Dr. Akiyama. We really appreciate it.

Reviewer 2's Comments to Author (Lucy Hocking, RAND Europe):

Comment 1: *It may be useful in the introduction to describe what the TB targets are for the TPPs so the reader has an understanding of what potentially new diagnostic methods need to achieve to meet these targets.*

Author's reply 1: Thank you for your feedback. We have added a paragraph on the WHO TPPs in the introduction under "Rationale" that explains what the TPPs are and why they were developed.

Line 56-59: "In 2014, WHO defined four target product profiles (TPP) that were deemed of high priority: a point-of-care (POC) non-sputum-based biomarker test, a POC triage test, a POC smear microscopy replacement, and a rapid drug-susceptibility test⁸. The TPPs were designed to guide developers towards fit-for-purpose TB diagnostics in terms of test performance and operational characteristics."

Comment 2: *Please clarify what is meant by 'donors' and 'advocates' in the objectives section.*

Author's reply 2: We revised the sentence for clarification.

Line 93-96: "This summary of currently available innovative diagnostic tools will aid the development of novel TB diagnostics to meet WHO TPP targets by informing developers, funders of TB diagnostic tools and also advocates for access to TB diagnostic testing."

Comment 3: *For the definition of POC, it may be helpful to state whether you are (or are not) including tests that patients can conduct themselves at home (self-testing), or whether you are only including tests that can be conducted by a healthcare professional as this will influence the scope of the review.*

Author's reply 3: We revised our definition of POC in the methods under "Definitions".

Line 110-113: "Point-of-care (POC) in vitro diagnostic (IVD) testing: "testing that can be performed by a lay user or a minimally trained healthcare professional at home and/or near a patient and outside of central laboratory testing facilities and can result in an immediate decision for next steps of care"."

Comment 4: *Search terms you could consider adding in: portable (test/device); point-of-care; POCT.*

Author's reply 4: We repeated our search after updating our search term to reflect the reviewer's suggestions, as shown in Table 1.

Comment 5: *Please add in your inclusion/exclusion criteria for publication date. Will studies be excluded based on which language they are in?*

Author's reply 5: Thank you for bringing this to our attention. We did not apply any language restrictions or inclusion/exclusion criteria with regards to the publication date. We have clarified this in the methods under "Eligibility Criteria".

Line 132-133: "No restrictions on language or date will be applied. Translations will be carried out using Google Translate or DeepL as necessary."