

Appendix S1 – Reflexivity Statement

1. How does this study address local research and policy priorities?

This study addresses South Africa's high TB burden and diagnostic gap by evaluating the acceptability and feasibility of a decentralized, in-home TB testing strategy. The approach aligns with national TB program priorities to improve early detection through household contact investigation and community-based point-of-care (POC) testing, including for underserved populations.

2. How were local researchers involved in study design?

Local and international researchers jointly participated in study conceptualization, protocol development, and implementation. The majority of the authors (8/14), including the first and last authors, are either South African and / or long-term residents within South Africa. Co-authors based in South Africa (e.g., Grant Theron, Sharon Olifant, Bernard Fourie, and Kuhle Fiphaza) led field operations and informed context-specific methods. The study was implemented in collaboration with provincial Departments of Health and local research institutions.

3. How has funding been used to support the local research team?

Funding from NIH and FIND supported local research capacity through training of lay community healthcare workers, salaries for South African field staff, and operational support for local site implementation. The study also enabled capacity building in in-home sample collection and molecular testing using GeneXpert platforms.

4. How are research staff who conducted data collection acknowledged?

Community healthcare workers who conducted contact investigations and collected data were central to the study. Their roles are acknowledged in the methods section, and co-authorship includes research staff involved in data collection oversight who met the ICMJE or local requirements for authorship.

5. Do all members of the research partnership have access to study data?

Yes. Data management was coordinated across South African and U.S.-based institutions. All partner institutions had access to cleaned and de-identified datasets used in analysis, with shared responsibilities in data interpretation.

6. How was data used to develop analytical skills within the partnership?

Local co-investigators contributed to data interpretation and feasibility metric design. The Metrics to Assess the Feasibility of Rapid POC Technologies framework was applied collaboratively, allowing researchers to build skills in operational and implementation analysis.

7. How have research partners collaborated in interpreting study data?

Study findings were interpreted collaboratively through iterative team discussions involving investigators in both South Africa and the U.S. Local field teams contributed insights on acceptability, feasibility, and implementation challenges, which shaped the discussion and conclusions.

8. How were research partners supported to develop writing skills?

Manuscript development was led by a South African co-investigator (Charl Bezuidenhout), with support and review from senior researchers. Early drafts were co-developed with contributions from local team members, and all authors participated in manuscript revision and approval.

9. How will research products be shared to address local needs?

Findings were disseminated through a local stakeholder workshop including Department of Health officials and community representatives. This ensured results informed local programmatic decision-making. The manuscript is intended for open access publication, enhancing public availability.

10. How is the leadership, contribution and ownership of this work by LMIC researchers recognised within the authorship?

LMIC researchers led the implementation and manuscript drafting. The first author is a South African researcher. Local researchers are prominently positioned in the authorship list and led several aspects of the study including protocol development, fieldwork, and data interpretation.

11. How have early career researchers across the partnership been included within the authorship team?

Early-career researchers based in South Africa were key contributors to fieldwork, data collection, and analysis. Their inclusion as authors reflects meaningful contributions and supports their academic development.

12. How has gender balance been addressed within the authorship?

The authorship team includes both men and women across seniority levels and institutions. While not explicitly detailed in the manuscript, gender equity was considered in team composition.

13. How has the project contributed to training of LMIC researchers?

The project trained community healthcare workers in specimen collection, in-home testing using GeneXpert, and ethical research conduct. It also provided mentorship to local investigators in implementation science and manuscript preparation.

14. How has the project contributed to improvements in local infrastructure?

While the study did not directly invest in infrastructure, it demonstrated the feasibility of decentralizing molecular testing using portable equipment, informing health system planning for potential scale-up in similar settings.

15. What safeguarding procedures were used to protect local study participants and researchers?

Ethical approvals were obtained from the University of Pretoria and Boston University IRBs. Safeguards included informed consent, data de-identification, and protocols to minimize stigma (e.g., engaging community advisory boards and respecting household dynamics during contact investigations).