



OVERVIEW

Great strides in tuberculosis (TB) research in recent decades have yielded dramatic improvements in TB prevention, diagnosis, treatment, and care. Yet progress in curbing new TB infections and deaths has been slower, in part because countries and communities cannot always rapidly implement research innovations. Resource constraints and technical issues in program delivery, as well as social and political contexts, can limit use. Evidence of how to integrate and implement these new tools and therapies is critical to accelerate the uptake and effective scale-up of TB innovations.

Operational research, and more broadly, implementation science, can identify gaps and provide solutions to implementation challenges by cultivating generalizable knowledge grounded in local contexts, such as how, when, and where new tools and interventions should be deployed. Because of the important role in supporting TB elimination efforts, in its 2023 [Political Declaration of the High-Level Meeting on the Fight Against Tuberculosis](#), United Nations member states committed to creating an enabling environment for operational and implementation research and elevating essential implementation outcomes for use of new tools and technologies as global TB targets.

OPERATIONAL RESEARCH MODEL AND IMPLEMENTATION SCIENCE

SMART4TB seeks to enhance implementation and integration of novel diagnostics, treatments, and anticipated vaccines through activities within existing trials and operational research focused on key implementation priorities of Ministries of Health, National TB Programs, and research- and community-based organizations. SMART4TB's approach is tailored to the setting, so that each research engagement is distinct and responsive to local needs.

SMART4TB's operational research team partners with and receives essential support from local USAID missions, and can provide technical assistance in a variety of ways, including:



CURRENT PROJECTS

South Africa

Early Career Investigators Drive Research to Meet National Priorities

In South Africa, SMART4TB cultivated operational research proposals from early stage investigators to assist and support the South Africa Department of Health Research Priorities for TB. With support from USAID's South Africa mission, SMART4TB issued a request for application process through the South African TB Think Tank. A panel of 16 independent reviewers, representing SMART4TB technical experts and community representatives, and leaders from research and policy organizations, selected the two strongest proposals to move forward, with input from SMART4TB.

The first, led by **Ingrid Schoeman at TB Proof**, uses participatory methods to identify barriers and co-develop potential interventions to increase testing, contact tracing, and preventive therapy. The second project, led by **Thobani Ntshiqqa at the Aurum Institute**, aims to better predict progression from TB infection to active disease among members of households of people living with TB. Both projects exemplify SMART4TB's goal of locally driven research that seeks to resolve a specific barrier in the TB program.

Cambodia

Expanding on Community-Based TB Prevention Project to Inform Policy and Implementation

In Cambodia, supported by USAID's Cambodia mission, SMART4TB is partnering with the National TB Program and the Khmer HIV/AIDS NGO Alliance (KHANA), a community-based NGO focused on HIV, to build upon KHANA's USAID-supported [COMMIT project](#) on community-based TB case finding and preventive therapy initiation.

The objectives of this study are: (1) to describe TB disease diagnostic yield and interferon gamma release assay positivity and by contact characteristic (e.g., sex, age group, geographic area, socio-economic status, nutritional status, contact hours, household crowding), (2) to describe TB infection testing and provision of TB preventive therapy to determine the proportion of close contacts reached and the effort required and (3) to estimate the cost to the health system and model cost scenarios depending on screening algorithm and TB infection prevalence among close contacts.

SMART4TB is providing technical support to KHANA to inform Cambodian policy on the use of infection testing to support preventive therapy initiation.

PARTNERING WITH SMART4TB

SMART4TB's implementation science and operational research team is available to support projects that advance the priorities and policy goals of USAID priority countries. Our tailored, collaborative approach is focused on creating the greatest possible impact for people living with TB. Please contact smart4tbinfo@jh.edu to learn more.

STUDY TEAM

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About SMART4TB

The SMART4TB Consortium brings together experts in TB tools development, implementation science, capacity strengthening, civil society engagement and policy translation. Led by Johns Hopkins University, consortium members include the University of California, San Francisco; the Elizabeth Glaser Pediatric AIDS Foundation; KNCV Tuberculosis Foundation; Treatment Action Group; and local community and research partners.

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