

# SUPPORTING, MOBILIZING, AND ACCELERATING RESEARCH FOR TUBERCULOSIS ELIMINATION



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Accelerating Research for  
Tuberculosis Elimination



## SMART4TB

The Supporting, Mobilizing, and Accelerating Research for Tuberculosis Elimination (SMART4TB) Consortium brings together experts in TB tools development, implementation science, capacity strengthening, civil society engagement, and policy guidance, with a plan to collaborate to transform TB control in the next five years. SMART4TB's strategy involves targeted research in collaboration with local partners in priority countries, strengthening capacity for conducting future research by country partners, and ensuring that the knowledge derived from research studies is translated into policy and practice at the global, national, and local level. The consortium, led by Johns Hopkins University (JHU), includes the University of California, San Francisco (UCSF), KNCV Tuberculosis Foundation (KNCV), the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), the Treatment Action Group (TAG) and regional collaboratives strategically based at research institutions in high-burden countries.

## Technical Area 5: Vaccine Preparedness

There is increasing consensus that the introduction of new and effective vaccines will be required to meet global control targets to End TB. Several promising TB vaccine candidates will soon enter phase III clinical trials. However, there is a need to understand the determinants that may influence regulatory licensing, widespread adoption, scale-up, and sustainment of a new TB vaccine into health systems in high TB burden settings, as well as the factors that may drive acceptability, access, and uptake in highly vulnerable populations. This understanding is critical for the full potential of a TB vaccine's individual- and population- level benefits to be realized, with additional modeling work to be done once vaccine products are in use.

## Vaccine Preparedness Objectives

In Year 1, SMART4TB will build the foundation to inform TB vaccine preparedness research activities for subsequent project years. To ensure our work meets a defined need, SMART4TB will:

- Conduct a scoping review to take stock of what evidence is available and identify gaps related to TB vaccine readiness;
- Conduct a desk review to learn from recent vaccine introductions across the life course;
- Undertake an evidence-based approach to identify priority countries and target populations; and
- Collect preliminary data related to TB vaccine readiness broadly — including both demand side and health system readiness information. We will further draw upon expertise within our collaboration and among local partners to identify key determinants of vaccine uptake and the development of strategies to optimize implementation and reach.

## Vaccine Preparedness Activities

*Scoping Review of Vaccine Readiness:* In Year 1, SMART4TB will build the foundation to inform research activities for Years 2-5 as we want to ensure we are leveraging and learning from existing work. To ensure our work meets a need, we will conduct a scoping review of the peer-reviewed and gray literature to synthesize available evidence and identify gaps in knowledge related to TB vaccine readiness. These findings will directly inform activities for Years 2-5 and will create a living repository that will be built upon during Years 2-5. Collaboration with the policy translation and community engagement technical area (TA7) will support the incorporation of community perspectives and development of a policy environment conducive to TB vaccine research.



*Desk Review of Vaccine Introductions:* To complement the scoping review, we will conduct a desk review to learn from recent vaccine introductions across the life course. This review will help identify gaps and innovative approaches that require additional data. This activity will aim to conduct a desk review and undertake key informant interviews to synthesize lessons learned from introducing recent infant (e.g., pneumococcal conjugate vaccine), child (malaria), adolescent (e.g., human papillomavirus, and adult (e.g., COVID-19) vaccination programs.



*Formative Work on Vaccine Acceptance:* SMART4TB will collect preliminary data related to TB vaccine readiness broadly — including both demand side and system readiness information — by leveraging other existing studies and their protocols. We will use an evidence-based matrixing approach to identify priority countries and target populations through an iterative process, engaging a set of diverse stakeholders. We will also leverage existing study protocols to conduct initial formative work to understand knowledge, attitudes, and intentions among persons (including their caretakers) most likely to benefit from a new TB vaccine to inform demand generation and delivery strategies in at least three different TB epidemiological situations for scale up and TB vaccine policy guidance in countries.