

TIFA Accelerator Series – India

Integrating and Sustaining Pediatric TB Care in India

With TIFA funding, FIND and SAATHI implemented new sample transportation models that increased access to TB case detection and treatment services for pediatric patients

In India, pediatric TB contributes to approximately 13 percent of the TB case load. Yet, according to the India TB Report 2023, only 38 percent of the estimated 356,000 children with TB were notified. TB often remains undetected in children due to difficulty obtaining samples for testing, lack of trained health care providers to collect samples, and sample collection facilities being limited to specialized centers, which are largely absent at sub-district level.

The USAID-funded Tuberculosis Implementation Framework Agreement Project (TIFA) supports the National TB Elimination Program (NTEP) to increase presumptive pediatric TB case identification and sample collection among children 0–14 years. TIFA funded the Foundation for Innovative New Diagnostics (FIND) and Solidarity and Action Against the HIV Infection in India (SAATHI) to do this work in nine states (Figure 1).

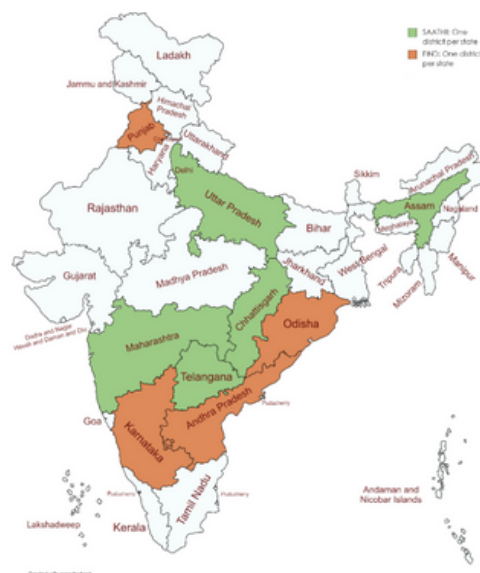


Figure 1: States in which the TIFA Grantees, FIND and SAATHI are implementing

As part of the **Global Accelerator to End TB**, the **United States Agency for International Development** (USAID)-funded Tuberculosis Implementation Framework Agreement (TIFA) project, led by **JSI Research & Training Institute, Inc.** with partner **Open Development**, focuses on enhancing collaborative, locally-led efforts to build countries' capacity to plan, finance, monitor, and sustain their own high-quality TB programs. TIFA works with country partners to develop fixed amount awards—known as TB commitment grants (TCGs)—contracts, or other awards to support priority activities.

Under TCGs, accountability and funding amounts are based on results: negotiated **milestones** are tied to payments. Together, NTPs and USAID identify country priorities, TIFA then works closely with them to develop the grant. TB commitment grants are implemented by NTPs or local entities. Completed milestones are submitted to and verified by USAID and TIFA. The **TIFA Accelerator Series** highlights grant achievements.

Model

FIND and SAATHII are demonstrating models for decentralizing and enhancing pediatric TB sample collection. To understand existing networks and challenges, the organizations mapped public health facilities; assessed pediatric sample collection; trained and sensitized medical officers, nurses, and community health workers; and supplied essential consumables. FIND and SAATHII also established sample collection and transportation centers to move samples from private sector facilities to higher-level diagnostic centers.

Collecting samples from children is challenging because they have difficulty producing sputum. Task mapping showed that pediatric sample collection is typically prescribed and supervised by pediatricians, but performed by nurses. Yet nurses had little training, so FIND and SAATHII trained and coached them in sample collection.

When the assessment showed that not all sites had the staff or resources to collect pediatric samples, FIND and SAATHII worked with district and block leaders to develop a sample collection network based on the hub and spoke model. Field officers identified facilities that had infrastructure and staff as “hub” sites, and designated peripheral facilities with limited infrastructure and/or staff “spoke” sites (Figure 2).

With state and district partners, FIND and SAATHII established 80 hub and 162 spoke sites (public and private) across the nine intervention districts. At spoke sites, staff screen and identify presumptive pediatric TB cases and providers refer these children to the hub sites for sample collection. To improve the linkages for timely specimen collection, the grantees collaborated with other child health programs including Rashtriya Kishor Swasthya Karyakram¹, Rashtriya Bal Swasthya Karyakram (RBSK)², and service centers such as the nutritional rehabilitation centers.

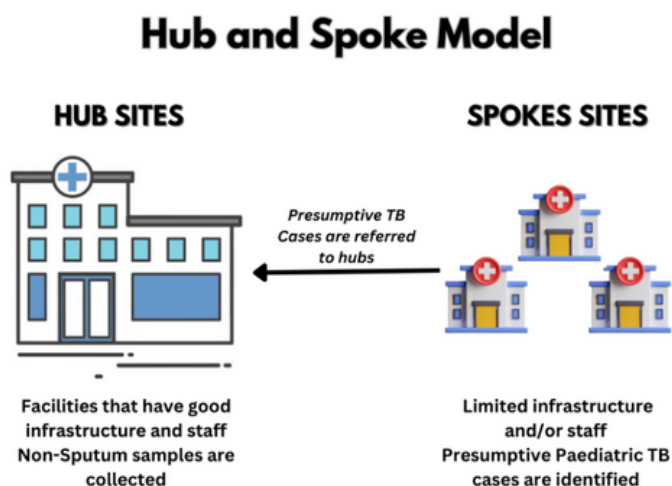


Figure 2: Illustration of the Hub and Spoke Model used for integrating and sustaining pediatric TB care in India

In India, TIFA works with USAID and the National TB Elimination Program (NTEP), stewarded by the Central TB Division of the Ministry of Health and Family Welfare, to award grants and other contracts to government entities, international and local NGOs, and private sector partners. Awardees implement catalytic activities, helping the NTEP to test, critically assess, prioritize and/or scale new interventions needed to fill program gaps and accelerate progress in its 2025 TB elimination strategy.

¹A Ministry of Health & Family Welfare adolescent health program.

²A Ministry of Health & Family Welfare program that screens children for 32 health conditions and provides early intervention services and follow-up at the district level.



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Technical Support

FIND and SAATHI partnered with Kalawati Saran Children's Hospital to convert the NTEP standard operating procedures (SOPs) for non-sputum sample collection, such as induced sputum and gastric aspirate, into training modules. They developed a new SOP for the national program on cerebro-spinal fluid sample collection and a video tutorial for non-sputum sample collection procedures.

In addition, they trained 471 health providers in non-sputum sample collection procedures and created a group of mentors in each district to support health workers in lower-level facilities in non-sputum sample collection through demonstration, observation, and feedback. In the model implemented by FIND, mentors support health workers through online sessions conducted by an institute, typically a medical college, in the district. SAATHI took a different approach, forming committees of pediatric specialists that provide on-site mentorship, and chest X-ray reading and challenging case management support via a WhatsApp group.

In addition to training and mentorship, SAATHI and FIND supplied consumables (Box 1), which states are now procuring and supplying on their own. Partners used state mechanisms to transport samples from hub to testing sites with Nucleic acid amplification test machines.

Box 1. Essential supplies provided

- Nebulizer machines
- Oxygen tubing
- Nebulization masks
- Hypertonic saline 3%
- Salbutamol respule and pulse oximeter
- Ryle's tube (8,10,12)
- 2% local gel/lubricant jelly
- Eye protection glasses
- Measuring tapes (tape)
- Oxymetazoline

Partnerships

Both organizations formed partnerships with private providers that increased access to TB case detection and treatment services for pediatric patients. The models that they implemented also aimed to reduce out-of-pocket expenditures and prevent delays in diagnosis. FIND and SAATHI sensitized professional medical associations such as district chapters of the Indian Association of Pediatrics to get private practitioners' commitment to identify and refer presumptive pediatric TB patients. Similarly, they partnered with other programs working with children such as RBSK and used their infrastructure to identify children to screen the students. SAATHI also partnered with 18 private labs for free chest X-rays and interpretation and sample collection (gastric aspirate, induced sputum, and fine-needle aspiration cytopathology for lymph nodes) to expand access to diagnostic services.

Results

In the first year of implementation, the organizations developed:

1. SoP and training video on Cerebro-Spinal Fluid sample collection
2. Training materials on decentralizing pediatric sample collection.
3. A guide for ASHAs, Anganwadi workers, community health officers, auxiliary nurse midwives, and pediatric TB for medical officers.

SAATHI conducted two surveys in five of the nine implementing districts to understand patient perspectives on the quality of care offered at the initiative's hub sites. Of the 163 caregivers (including presumptive and confirmed cases) who took the survey, 85 percent indicated that their child suffered cough and associated fever or loss of appetite; and 37 percent reported visiting other hospitals before the hub hospitals. Of the 144 patients who had a chest X-ray, 109 did not incur out-of-pocket costs as they accessed services from the radiology centers and hospitals. Forty-nine children underwent gastric aspirate, and eight were sputum-induced. Staff collected 2,251 non-sputum samples and confirmed 225 TB cases in children.

Learnings

FIND and SAATHI demonstrated that non-sputum sample collection is possible when staff are trained and referral networks are well defined. NTEP and partners learned the following lessons from implementing these grants:

- Sensitizing private sector providers, health care workers, and professional medical associations on the prevalence of pediatric TB and options for sample collection and diagnosis can increase their involvement and ability to find cases.
- Doctors are usually the focus of training, but nurses are capable of conducting a substantial amount of pediatric sample collection. Training nurses to do so can increase diagnosis.
- It takes time to build providers' skill and confidence to conduct new diagnostic procedures with pediatric patients. Mentorship visits help.
- States and districts can purchase services such as chest X-ray and fine-needle aspiration cytopathology sample collection from private providers to increase patient access.
- More information on program costs will help states and districts plan and provide pediatric screening, diagnosis, and treatment services.

Sustainability and Scale-up

Based on the initial results, the Central TB Division and USAID India recommended that TIFA provide follow-on grants to FIND and SAATHI to demonstrate the replicability of the models and provide technical support to states to scale their activities. States that will scale up the activities through grants and technical assistance from TIFA are Assam, Telangana, Odisha, and Punjab. Activities will be scaled across nine states through The Global Fund to Fight AIDS, Tuberculosis and Malaria support.

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