



BANGLADESH TUBERCULOSIS ROADMAP OVERVIEW, FISCAL YEAR 2023

This is an overview of the USAID/Bangladesh FY 2023 Tuberculosis (TB) Roadmap, implemented with the FY 2022 budget. The roadmap was developed in consultation with the National TB Control Program (NTP) and with the participation of national and international partners involved in TB prevention and care in the country.

In 2021, the estimated TB incidence was 375,000, and an estimated 43,000 people died from TB. Bangladesh notified 306,701 incident TB cases (new and relapse) in 2021; 46 percent of total notified bacteriologically confirmed individuals with TB were tested for rifampicin resistance. A total of 1,601 individuals with drug-resistant TB (DR-TB) were diagnosed in 2021, of which 1,488 (93 percent) were enrolled on treatment.

The National TB Control Program (NTP)'s 2021-2025 National Strategic Plan for TB derives from the World Health Organization's (WHO) End TB Strategy. It highlights the fundamental principles of government stewardship and accountability, a strong coalition with civil society organizations and communities, protection and promotion of human rights, ethics and equity, and adaptation of the strategy and targets at the country level. The NSP outlined a series of critical interventions that would enable Bangladesh to achieve the End TB Strategy's milestones for 2025 (75 percent reduction in TB deaths and 50 percent reduction in TB incidence rate) and targets for 2035 (95 percent reduction in TB deaths and 90 percent reduction in TB incidence rate). The current NSP focuses on active case finding with particular attention to DR-TB, Child TB, and comorbid conditions (e.g., diabetes, chronic obstructive pulmonary disease (COPD)), expanding the diagnostic network, integrating TB services into the regular health service delivery system, utilizing the existing health structure for better clinical management of DS-TB and RR/MDR-TB. These strategies are undergoing review to adapt to new public health standards given the impacts of COVID-19.

The proposed FY2022 USAID TB budget for Bangladesh is \$22 million. With this level of funding, USAID will support the following technical areas:

REACH

TB diagnosis

The NTP's TB diagnostic network in Bangladesh consists of one national TB reference laboratory (NTRL), five regional TB reference laboratories (RTRLs), 441 GeneXpert sites (471 machines in use, and more than 847 facilities with microscopy machines. To ensure universal access to molecular diagnostics for all presumptive TB cases, the NTP's NSP plans to implement 1,260 GeneXpert machines by 2025, gradually phasing out smear microscopy as the primary and initial tool for TB diagnosis. USAID/Bangladesh continues to support the NTP's efforts to increase TB, MDR-TB, and child TB case detection by ensuring improved bacteriological confirmation of cases



with rapid molecular diagnostics. USAID/Bangladesh also supports the NTRL and the RTRLs to properly exercise their roles in providing technical support and performance oversight of rural laboratories—GeneXpert and microscopy sites.

In FY 2023, USAID/Bangladesh will consider expanding support to additional districts/upazilas and medical college hospitals in Sylhet, Rajshahi, Khulna, and Chattogram divisions. The activities proposed are outlined below:

1. USAID will support the NTP to adapt and update the existing policies and technical documents to increase utilization of liquid culture, Line Probe Assay (LPA), Xpert MTB/XDR, and targeted genome sequencing.
2. USAID will advance the implementation of the Quality Management System (QMS) for TB diagnostic networks. Additionally, USAID/Bangladesh will continue developing and implementing the external quality assurance (EQA) program to ensure compliance with existing international standards of laboratory diagnostics.
3. USAID will continue to support the optimization, development of synergies, and implementation of logistics management information systems (LIMS) for TB diagnostic networks. USAID will work closely with the NTP to improve the procurement and supply chain management (PSM) of TB laboratory commodities in all the diagnostic facilities across the country through an interactive digital system that enables real-time status of the commodities inventory.
4. USAID will support implementing an optimized and reliable transport system plan from districts/upazilas to RTRLs and from community health facilities to district/upazilas for GeneXpert testing.
5. USAID will support the piloting of TrueNat in Bangladesh to expand patient access to rapid testing and guide the placement of the technology within the existing laboratory network structure.
6. USAID will continue placing medical technologists at GeneXpert testing sites and facilitate extended work hours.
7. USAID will continue supporting human resources at the NTRL, Shyamoli TB Hospital in Dhaka city, and Sylhet, Khulna, and Rajshahi RTRLs.
8. USAID will contribute to skill-building activities for laboratory staff at all levels of the diagnostic network, including e-learning.

Engaging all care providers

USAID supports active case finding (ACF) through facility-based intervention across 40 secondary and tertiary healthcare facilities in districts of Rajshahi, Sylhet, Dhaka, and Chattogram divisions; USAID also partners with the Diabetic Association of Bangladesh (BADAS) network, non-formal private providers network (social marketing company) to conduct active TB screening among individuals with diabetes. USAID also supports active TB



screening within TB screening and treatment centers (TBSTC)—a Social Enterprise Model (SEM) for TB care in the private sector—readymade garment (RMG) factories, and Surjer Hashi Network (SHN) clinics. Finally, USAID has supported the establishment of a One-Stop TB Service Center (OSTBSC) in Shyamoli Hospital, Dhaka to better manage and treat all forms of TB in a single health facility.

USAID will continue work on the following areas in FY 2023:

- ACF among children and adults: USAID will continue supporting the screening, referral, and diagnosis of children and adults at tertiary, secondary, and primary care facilities that include BADAS, SMC network, and TBSTC.
- Non-respiratory specimens GeneXpert testing for childhood TB: USAID/Bangladesh will continue supporting activities for the detection of childhood TB that include the collection and transport of stool samples for testing with GeneXpert Ultra, as well as testing of non-respiratory specimens—lymph nodes aspirate, gastric lavage, and other fluids and tissues.
- Programmatic Implementation of TB Contact Investigation (TBCI): USAID will expand its field footprint to ensure contact investigation is conducted in its geographical focus areas with the implementing partner working on case finding. USAID will support the NTP to strengthen M&E tools for data collection, analysis, sharing of key TBCI indicators and program based operational research to generate evidence and inform policy.
- Competency-based training: USAID/Bangladesh will work with the NTP and other implementing partners to build adequate competencies of health staff at primary, secondary, and tertiary health facilities to optimize TB screening, referrals of presumptive TB cases, specimen collection, and counseling.
- Mandatory reporting among private providers: USAID/Bangladesh will continue scaling up the use of the Janao application among private providers to increase TB case notifications from the private sector.
- USAID will work with clinicians, obstetricians, and gynecologists who care for pregnant women to assess everyone for signs and symptoms as well as risk for TB infection—interferon-gamma release assays or tuberculin skin test. USAID will gather and evaluate evidence on TB care in pregnancy to recommend better practices and develop strong policies addressing TB screening/diagnosis, prevention, treatment, or follow-up/supervision/counseling activities/services for women in pregnancy.

Community TB care delivery

USAID/Bangladesh has succeeded in forging vital partnerships that have permitted community-based ACF. In 2021, USAID worked with non-informal health providers—Blue Star Providers (BSPs), Green Star Providers (GSPs), and Gold Star Members to conduct TB screening and referrals in urban and rural communities. USAID also worked with local partners to identify



presumptive TB cases in 184 tea gardens and 72 Punji communities in Sylhet. USAID also worked in slums to screen and refer presumptive TB cases for testing in Dhaka, Chattogram, and Sylhet by staff from surrounding TBSTCs through door-to-door visits and TB screening camps.

In FY 2023, USAID will expand the coverage of community-based ACF into new geographical areas, increase field efforts with the needed staff, and continue implementing interventions that deliver results. USAID/Bangladesh will also increase investment in social behavior change interventions to promote health-seeking behaviors that increase TB healthcare services uptake among individuals living in rural communities.

CURE

Drug-susceptible TB (DS-TB) treatment

In Bangladesh, TB treatment is provided through community health workers and it has a successful (Directly Observed Therapy) DOTS provider network maintaining treatment success rate (TSR) of more than 90 percent for more than two decades. USAID continues to support the NTP to maintain the high success rate of DS-TB treatment.

USAID will support in following areas in FY 2023:

1. **Digital approach for improving TB medication adherence:** USAID will pilot 99DOTS modality aimed to use easy and simple phone devices to track daily intake of TB medicine for TB patients (iNTP) to improve patient adherence.
2. **Integrating mental health services into TB programmatic activities:** Based on experience of the USAID COVID-19 project and existing evidence regarding the impact of mental health on TB treatment outcomes, USAID will work on integrating mental health services within existing TB treatment programs.

Multidrug-resistant TB (MDR-TB) treatment

In FY2023, USAID/Bangladesh will focus on increasing access of people with DR-TB to quality-assured and prompt diagnosis and treatment care. USAID intends to expand the programmatic management of DR-TB to additional divisions, districts, and upazilas. Specific interventions and activities are listed here:

- **State-of-the-art services for individuals with DR-TB:** USAID will continue supporting the OSTBC at the Shyamoli Hospitals and operationalize two additional OSTBCs in Sylhet and Rajshahi division, which will serve as the hubs for DR-TB case management training and mentoring.
- **All-oral DR-TB treatment regimens:** USAID will work to accelerate the scaling-up of all oral DR-TB treatment regimens, especially shorter regimens containing bedaquiline.
- **Ambulatory DR-TB Management:** USAID will intensify decentralized care implementation at secondary-level healthcare facilities to increase initiation of DR-TB treatment.



- **Active Drug Safety and Monitoring (aDSM):** USAID will train clinicians and other clinical personnel to manage serious adverse events resulting from DR-TB drugs and USAID will also increase efforts to improve and expand recording and reporting on aDSM through eTB Manager.
- **DR-TB and COVID-19 co-infection testing and management:** USAID/Bangladesh will continue supporting the implementation of protocols to diagnose and treat patients with DR-TB and COVID-19.

PREVENT

Prevention

USAID supported the NTP in refining the TPT policy, standard operating procedures, and training materials on TBI and TB preventive treatment (TPT). The country recommends using shorter-duration regimens with combination drugs—i.e., 3HR). USAID efforts successfully launched TPT in TBSTCs throughout seven upazilas in two districts of Dhaka. Through the iNTP, 60,000 USAID procured medicines for the 3HR regime for children and adults. These efforts are gradually expanding into additional districts.

Following are areas for USAID involvement:

- USAID will support the NTP's Expansion Plan for Tuberculosis Preventive Therapy in Bangladesh. This work will include training healthcare staff in the NTP network DOTS corners, private sector, and hard-to-reach communities.
- USAID will support the NTP to systematize contact investigation and TPT data recording and reporting using eTB Manager.
- USAID will design and implement a flexible contact management accompaniment (CMA) approach so the team can support arrangements customized for each family's circumstances, including a family-centered discussion and shared decision-making.

SUSTAINABLE SYSTEMS

Commitment and sustainability

USAID/Bangladesh and the Government of Bangladesh signed a Statement of Partnership in FY2019 to facilitate development assistance to the NTP and establish commitments on eliminating TB by both parties. To increase sustainability, USAID/Bangladesh is strengthening local capacity in Bangladesh to locally-manufacture first-line TB drugs; these efforts provide technical assistance in the pre-qualification processes, including developing robust regulatory systems. Procuring pre-qualified local drugs will produce cost savings for national budgets, with the potential to redirect funds for other NTP activities and priorities. In the last year, USAID/Bangladesh worked to assess the legal and regulatory environment needed to support the NTP in developing outsourcing mechanisms to deliver TB services with its capacity.



Capacity and functioning systems

USAID will provide support in following areas:

- USAID will provide technical assistance to the NTP to assess government storage facilities and those of implementing partners.
- USAID will continue supporting the NTP in using eTB Manager and ensure TB patient tracking. USAID will provide necessary technical assistance to ensure the transition of the eTB manager from the partner to the NTP.
- To attract the next generation of public health professionals and bio-medical researchers into the field of TB, USAID will provide professional fellowship opportunities in TB-related research topics.

Research

USAID/Bangladesh is advancing the adoption and roll-out of new diagnostic and treatment tools that include:

1. **TrueNat:** USAID/Washington and USAID/Bangladesh are piloting (analyzing feasibility and acceptability) new TrueNat point-of-care TB diagnostic technology. Through the iNTP, 38 Duo instruments were placed at union and community health centers. USAID will continue supporting the introduction of TrueNat and gather data on its performance to guide further scale-up.
2. **tNGS:** USAID/Bangladesh will demonstrate the feasibility of targeted Next-Generation Sequencing (tNGS) platforms with direct testing of sputum samples to detect MDR-TB patients. These efforts will develop a protocol on the use and feasibility of tNGS for detection and surveillance purposes describing the drug mutation patterns for first- and second-line drugs. USAID will also support the use of tNGS for DR-TB surveillance.
3. **BPaL Regimen of pre-XDR/XDR-TB:** USAID/Bangladesh will continue supporting the finalization of operational research and data analysis to inform policy.
4. **QuantiFERON-TB Gold Plus:** Determination of LTBI among healthcare workers at different health facilities in Bangladesh will help estimate their prevalence of LTBI through testing with QuantiFERON-TB Gold.
5. **Operational Research on Prevalence of Isoniazid (INH) Resistant (HrTB) in Bangladesh—defined as resistance to isoniazid with or without other drugs not including rifampicin:** USAID will continue supporting operational research to determine the rates of INH resistance in Bangladesh.