



PAKISTAN TUBERCULOSIS ROADMAP OVERVIEW, FISCAL YEAR 2024

This is an overview of the USAID/Pakistan FY 2024 Tuberculosis (TB) Roadmap, implemented with the FY 2023 budget. The roadmap was developed in consultation with the National TB Program (NTP) and with the participation of national and international partners involved in TB prevention and care in the country.

In 2022, it was estimated that there were 608,000 incident TB cases in Pakistan, representing an estimated incidence rate of 258 new TB cases per 100,000 population and This estimate is a decrease from a 2021 spike of 615,000 estimated incident cases. The number of TB deaths estimated for 2022 was 47,000, with a mortality rate of 20 TB deaths per 100,000 population. The NTP notified 424,566 people with new and relapse TB in 2022, which is 125 percent of the number reported in 2021. In 2022, 63 percent of individuals with TB were tested with WHO-recommended rapid diagnostics at the time of diagnosis, and 51 percent were bacteriologically confirmed. Although the treatment success for drug-susceptible TB (DS-TB) cases stands at 94 percent, case detection of all types of TB remains a challenge, with almost one-third of TB cases still going undetected.

The NSP 2024-2026 has the goal to reduce the TB mortality rate by 35 percent in 2026 compared to 2015 through six objectives:

- Objective 1: Increasing the number of notified new TB episodes to at least 528,600 by 2026 and maintaining the TB treatment success rate of more than 90 percent from 2024 onwards.
- Objective 2: Increasing the number of detected and treated MDR/RR-TB cases from 3,373 in 2021 to at least 9,560 by 2026 and the treatment success rate to at least 80 percent from 2024 onwards.
- Objective 3: Increasing the proportion of notified TB cases with known HIV status from 52 percent in 2021 to at least 95 percent by 2026 and treating 100 percent of identified individuals with TB/HIV with antiretroviral therapy (ART) every year.
- Objective 4: Improving TB prevention through TB preventive therapy (TPT) of at least 80 percent of household contacts and people living with HIV (PLHIV) with no active TB in 2024 to 2026 and strengthening infection control.
- Objective 5: Strengthening the governance and the programmatic management capacities for providing TB services at national, provincial, and district levels.
- Objective 6: Preserving key TB prevention, care, and control services in the areas in the acute phase of a complex emergency.



The proposed FY 2023 USAID TB budget for Pakistan is \$14 million. With this level of funding, USAID will support the following technical areas:

REACH

TB diagnosis

The TB laboratory network in Pakistan is arranged at four tiers: national, provincial, district, and peripheral. TB laboratory services are integrated into the existing health structure at the primary, secondary, and tertiary health care levels. The proposed strategies and interventions seeking to address challenges identified through the 2022 Joint Monitoring Mission and USAID-funded Diagnostics Network Assessment (DNA) (2023) Potential strategies and interventions include:

- Optimizing GeneXpert machines nationwide, including Xpert MTB/XDR, based on findings from the DNA.
- Refining specimen transport system using data from the DNA to improve efficiency.
- Conducting systematic supervision and monitoring of specimen transport systems, tracking KPIs such as turnaround time (TAT), and adjusting processes accordingly.
- Generating evidence on DR-TB prevalence and resistance patterns in Pakistan by supporting the National Reference Laboratory (NRL) and Provincial Reference Laboratories (PRLs) in implementing the Drug Resistance Survey (DRS) and routine DR-TB sentinel surveillance.
- Improving technical capacity at the NRL and PRLs to implement routine quality management systems (QMS), including supporting ISO laboratory accreditation and providing on-site mentoring to laboratory staff.
- Training lab staff to monitor key performance indicators (KPIs) for improved laboratory performance and prompt corrective action.
- Promoting a robust coordination platform for reviewing TB data, monitoring progress, troubleshooting problems, and facilitating solutions through quarterly interprovincial monitoring and evaluation meetings and empowering District TB Coordinators and Officers (DTC/DTO) to provide better support during regular visits.

Engaging all care providers

According to the NSP, an estimated 70 to 85 percent of people in Pakistan seek initial health care from private sector providers, which include 100,000 general practitioners (GPs), over 67,000 pharmacies, laboratories, and around 5,000 private hospitals. Thus, engaging the private



sector to increase TB case finding is critical; potential strategies and interventions include the following:

- Conducting the pathway analysis of the individual’s journey to TB diagnosis in basic health units (BHUs) and public/private hospitals and designing, implementing, and monitoring workflows to ensure prompt screening, linkage to diagnostic services, and clinician consultation for TB management.
- Expanding active case finding in public/private hospitals and BHUs within non-TB services/programs (e.g., pediatrics, Expanded Program of Immunization (EPI), diabetes clinics, HIV) while increasing coverage of GPs to accelerate TB case identification.
- Establishing partnerships with professional associations at national and provincial levels to sensitize and engage in training with accredited clinical medical education (CMEs).
- Developing and implementing a training program that ensures all staff understand and apply the diagnostic algorithm, order tests, and interpret results while monitoring implementation across sectors, including audits.
- Sensitizing health facility staff through posters and job aids on TB symptoms, diagnostic algorithms, pediatric TB, risk groups, and community linkages.
- Developing an interactive app with clinical and laboratory reference materials, including diagnostic algorithms, test ordering, patient linkage to care, and other relevant information.
- Evaluating the effectiveness of these interventions on TB case finding, particularly bacteriological confirmation of DS-TB and DR-TB.

Community TB care delivery

USAID/Pakistan will facilitate articulated interventions, leveraging established platforms that can bridge the community with TB diagnostic services. In FY2024, potential strategies and interventions include:

- Implementing a “hub and spoke” model for TB care integrating community-based platforms, BHUs, private sector (GPs, pharmacies), and Xpert testing sites.
- Enhancing lady health workers’ (LHWs) capacity for TB case finding and confirmation, including through contact investigation.
- Accelerating the introduction and scale-up of TB screening with CXR+CAD in the community setting.



CURE

Drug-susceptible TB (DS-TB) treatment

Potential strategies and activities include:

- Establishing a person-centered approach within the “Hub-and-Spoke” model to ensure early treatment initiation and compliance.
- Incorporating psychosocial support tools for individuals with TB, including mental health screening and TB treatment adherence counseling.
- Establishing multi-sectoral partnerships to enhance equitable access to TB care with a human-rights and gender lens.
- Organizing workshops with government and non-government stakeholders to assess and expand financing programs such as the Sehat Sahulat Program to include TB care.
- Collaborate with social protection programs to ensure inclusion of persons with TB.

MDR-TB treatment

Based on the 2022 GTB report, the burden of MDR-TB in Pakistan is 2.5% in new and 4.9% in retreatment TB cases. There were an estimated 16,000 (95 percent Confidence Interval (CI) 11,000-21,000) individuals who developed MDR-TB in 2022, however, the NTP was only able to diagnose 4514 (28 percent) of individuals with RR-TB, out of whom 3682 (82 percent) were enrolled into treatment. Potential areas for USAID include:

- Providing technical and financial support to enhance and expand newer TB treatment regimens, including the six to nine months oral shorter treatment regimen containing bedaquiline, pretomanid, linezolid (BPaL regimen), and BPaIM (adding moxifloxacin).
- Strengthening staff capacity for optimal DR-TB management and BMU staff on early referral and tracing individuals lost to follow-up.
- Training medical and nursing staff on monitoring adverse events and interpreting TB lab results for clinical management.
- Providing a comprehensive package of psychosocial support, including improved nutrition, home visits, mental health screening, management by psychologists, and patient incentives.
- Strengthening active drug safety monitoring (aDSM) through digitalization.
- Supporting a research study on managing comorbid conditions (Diabetes mellitus) in patients with DR-TB.



PREVENT

Prevention

Potential areas of focus for USAID to work on preventing TB in Pakistan include the following:

- Conducting capacity building and sensitization seminars on TPT implementation for Health Care Staff.
- Providing diagnostic and travel support through an incentivized care model to patients to improve TPT uptake.
- Procuring WHO-recommended diagnostics tests and newer (3HP) drugs for shorter durations.
- Establishing private partnerships for contact screening through LHWs.

INNOVATE

Pakistan has been piloting several digital health innovations, including a toll-free TB helpline, an online training portal for healthcare workers, improved warehouse management systems, and solar panel-powered diagnostic sites, with 110 sites solarized in Sindh out of 137. Efforts to integrate TB data into the district health information system DHIS-2 are ongoing nationwide. Quarterly inter-provincial meetings, supported by USAID, facilitate knowledge sharing among provinces. Additionally, initiatives like the engagement of Lady Health Workers aim to enhance TB case notifications by improving community outreach. A web-based tracker app for MDR-TB patients was developed recently, providing a single platform for live data entry. USAID-supported interventions in digitalization include IT solutions for TB recording and reporting, aDSM digitalization for timely counseling, developing linkages between labs, and GeneXpert sites, patient counseling and follow-up through the NTP call center, establishing a digital complaint resolution system, M&E capacity development on digital tools, and archiving files in electronic form.

Research

In FY 2024, USAID may extend technical assistance to the NTP and NTRL to support ongoing research initiatives or address significant challenges:

- Developing a protocol for a pilot project to introduce stool-based Xpert testing in children.
- Supporting drug resistance survey that will begin in May 2024.
- Conducting sentinel surveillance of drug resistance.
- Implementing next-generation genome sequencing.
- Utilizing 96 WELL plate DST and blood for TB diagnostics.



- Implementing video directly observed treatment (DOTs).
- Repeating the National TB Prevalence survey.

SUSTAIN

Commitment and Sustainability

Pakistan has a significant political commitment to end TB, but domestic funding falls far short of needed levels, as only 2.4 percent of estimated needs were covered from 2017 to 2021. This heavy reliance on external financing poses risks to program sustainability, requiring urgent action. Sustainable domestic financing is crucial to intensifying TB prevention and care efforts, but high-level policymakers lack awareness of TB's health and economic burdens. Only a fraction of health units are engaged in TB control, highlighting the need for increased funding and better utilization mechanisms. The National Strategic Plan (NSP) aims to secure high-level political commitment and mobilize domestic resources, outlining specific actions. USAID support will focus on advocacy, developing a multisectoral accountability framework, and boosting technical capacity at national and provincial levels, including organizational support, capacity building, and strengthening diagnostics and monitoring systems.

Procurement and supply chain management (PSM)

The NTP oversees drug management activities by establishing a Drug Management Unit (DMU) at the national level. A dedicated procurement and supply chain management (PSCM) team runs TB medicine management at the central level to cater to all three disease programs, i.e., AIDS, TB, and Malaria. Potential areas for USAID support include the following:

- Improving quantification, forecasting, procurement, distribution, and regulatory systems for TB medicines and supplies.
- Using early warning systems for stock levels.
- Aiding the transition to procure quality-assured TB medicines with domestic funds.
- Strengthening of pharmacovigilance systems.
- Assessing the need for further technical assistance for drug manufacturer companies on WHO pre-qualification.

Monitoring and evaluation (M&E), Health Management Information Systems (HMIS) and implementation of the Performance-Based Monitoring and Evaluation Framework (PBMEF)

The NTP in Pakistan operates through a network of around 1,600 BMUs in public and private sectors, along with 33 hospitals offering MDR patient services. Monitoring involves data verification, review of patient management practices, adherence to guidelines, and diagnostic procedure assessment across three levels: district, provincial/regional, and national. District TB Coordinators oversee activities at the district level, monitored by provincial officers, with



support from national managers. USAID's support includes inter-provincial meetings, strategic planning, and capacity building. Challenges include inadequate M&E staff capacity, underutilization of gathered information, and limited use of surveillance data for planning. The formation of the Common Management Unit has reduced M&E efforts, highlighting the need for dedicated expertise.

Human Resources for Health (HRH)

Potential areas for USAID involvement in improving HRH include the following:

- Supporting capacity building workshop on revised TB, TPT, Infection Prevention and Lab guidelines and related M&E.
- Revising and updating the online TB training portal of the NTP.
- Hiring of an advisor in Punjab and Balochistan provinces.
- Hiring of federal HR for aDSM.
- Conducting a salary survey to address the disparity.