

Strengthening Tuberculosis Programs in Khyber Pakhtunkhwa and Sindh Provinces



KEY ACHIEVEMENTS

- IHSS-SD worked closely with provincial and national TB programs to identify interventions for improving active case detection of TB.
- IHSS-SD optimized provincial TB programs' operational plans to maximize detection and response to TB case findings.
- Provincial TB programs in Sindh and KP saw improvements in case detection and control and will fund active case detection activities in their health budgets.

EXECUTIVE SUMMARY

The USAID Integrated Health Systems Strengthening and Service Delivery (IHSS-SD) Activity supports three health system priorities: strengthening the health system at the federal level and in select provinces and districts; operationalizing the Global Health Security Agenda (GHSA) across Pakistan; and improving maternal, child, and newborn health (MNCH) service delivery and health outcomes in four districts of Khyber Pakhtunkhwa (KP). IHSS-SD leveraged the legacy of previous USAID funding to support the Ministry of National Health Services Regulations and Coordination's (MoNHSR&C) National Health Vision (NHV 2016-2025) and coordinate with provinces to achieve Pakistan's health sector strategic goals. These efforts have resulted in the establishment of the Health Planning System Strengthening Information Analysis Unit (HPSIU) and bolstered the Government of Pakistan's (GOP) 2015 commitment to the GHSA. In parallel, IHSS-SD worked with the government of KP, a region with a large displaced and rural population, to support the provincial priorities of improving access to and uptake of quality MNCH services.

The IHSS-SD Activity aligned its work plan and GHSA interventions with USAID's Country Development Cooperation Strategy (2018-2023) and its Health Systems Strengthening Vision 2030. Under GHSA support, IHSS-SD Activity designed a simple but unique intervention for the active case detection of tuberculosis (TB) in two provinces. TB is a notifiable infectious disease in Pakistan. Pakistan's National TB Program is responsible for country TB



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strategies and collaboration with donors, including the Global Fund for AIDS, TB, and Malaria (the Global Fund). Provincial TB programs, however, are the main implementing entities and are responsible for operationalizing TB strategies including case detection, diagnosis, treatment, and follow up.

Contact tracing and testing efforts prevented an estimated additional 2,400–3,600 new cases of TB in the pilot districts.

A review of existing provincial TB programs found that active TB case detection, as defined by the World Health Organization (WHO), was missing from the program design. Active case detection mandates that if an index case is confirmed TB positive, all household, workplace, and social contacts must be screened. When appropriately implemented, the intervention is cost effective, helps to reduce diagnosis and treatment delays, and prevents the spread of TB.

IHSS-SD supported Sindh and KP provincial TB programs to integrate active TB case detection into their programming through community awareness sessions and the establishment of Programmatic Management of Drug-Resistant TB (PMDT) units. 2,414 community awareness sessions reached over 16 thousand people and helped in identifying suspected cases and mobilizing families to get screened. IHSS-SD helped establish satellite PMDT sites which expanded community outreach for active TB case management. Between January 2021 and September 2021, IHSS-SD supported both provincial TB departments to follow up on 2,473 drug resistant and drug sensitive index cases and trace 16,823 contacts. 7,296 symptomatic contacts had sputum specimens collected and transferred to labs, resulting in the identification and diagnosis of 214 drug sensitive and 29 drug resistant TB cases. All patients were registered for treatment.

Lessons learned from IHSS-SD's support to provincial TB programs are being incorporated into the national strategic plan for controlling TB in Pakistan, and provincial TB programs in Sindh and KP have agreed to fund active case detection activities into their next budget cycle.

BACKGROUND

Pakistan, with an estimated 510,000 new TB cases emerging each year and approximately 15,000 developing drug resistant TB cases every year, is ranked fifth among high-burden countries worldwide and accounts for 61% of the TB burden in the WHO Eastern Mediterranean Region.¹ TB detection and control is one of the GOP's national priorities and is integral to the National Strategic Plan for TB 2020-2023 and KP and Sindh provincial TB programs (PTPs). The National TB program provides strategic guidance and policy decisions and liaises closely with the Global Fund, the major donor to Pakistan's TB program. Provincial TB programs are the primary implementing entities for operationalizing TB-related interventions in the health sector across Pakistan's 155² districts.

In 2018, WHO estimated that 562,000 people developed TB, at a rate of 265/100,000 population per year, and 43,000 (or one in twelve infected with TB) died from it. In addition, 28,000 cases of rifampicin resistant or multidrug-resistant TB (MDR-TB) developed that year. The WHO estimates that the incidence of TB is falling, but the rate of fall is exceeded by population growth and, therefore, there are more cases occurring each year. In KP, approximately 55,000 new cases are diagnosed annually. Data from 2016 shows that in all newly diagnosed TB patients, 4.2% are primary resistant and 16% are resistant in the re-treatment phase. In 2018, PTP Sindh detected 74,524 TB cases in the province. Of those, 41% were hidden or un-notified cases of TB.³



A family of TB drug resistant patients attend a TB awareness session in Larkana, Sindh.

1 <https://www.emro.who.int/pak/programmes/stop-tuberculosis.html>

2 There are currently 160 districts.

3 National TB Program. National Strategic Plan 2020-2023. Islamabad

A confluence of factors including poverty, malnutrition, accessibility to health services, and average household size (seven people) increases the risk of transmitting TB to others. In rural areas, access to TB services, including contact screening are challenging. Currently only 23% of close TB contacts are screened, well short of the 100% program target.



A group of female community members attend a TB awareness session in Lakki Marwat.

USAID Support for TB Control Efforts in Pakistan

The GHSA serves as a catalyst for attaining a world safe and secure from global health threats posed by infectious diseases. The GHSA aims to increase domestic and international financial support for strengthening and maintaining capacities to prevent, detect, and respond to infectious disease outbreaks, embedded in health system strengthening efforts. The U.S. government's Global Health Strategy 2019 recognizes that as drug resistance evolves and spreads, global gains in combatting diseases such as TB are at risk. Hence, efforts to strengthen the diagnosis, treatment, and prevention of TB and MDR-TB will support broader global health security goals. USAID/Pakistan has been supporting the GHSA by leveraging key partnerships with academia, civil society, and the private and public sectors to mitigate global health security threats and other infectious diseases, including TB.⁴

Between January and September 2021, the IHSS-SD Activity supported PTPs to improve active contact tracing of bacteriologic positive TB cases and decentralize the management of drug resistant TB cases. This work demonstrated the effectiveness of active contact tracing and screening as an important

strategy in improving the detection of bacteriologic positive cases of TB within communities.

INTERVENTIONS

Contact Tracing and Screening

At the start of the intervention, a private sector vendor was contracted for contact tracing but only reached 25% of all diagnosed TB cases. In consultation with PTPs in KP and Sindh, the IHSS-SD Activity extended technical support to enhance the case detection rate (CDR) by tracing contacts of drug resistant (DR) and drug sensitive (DS) TB cases in five districts: Larkana and Qambar Shahdadkot in Sindh and Charsadda, Lakki Marwat, and Swat in KP.

The IHSS-SD team collected a list of 2,473 DR and DS index cases registered at PMDT sites and GeneXpert sites. The team developed a weekly microplan in coordination with the District TB Focal person and LHW Program, under the auspices of each District Health Officer's office. During the field visits, 16,823 contacts were traced and sputum of 1,682 symptomatic cases and contacts collected and submitted to the nearest PMDT site. Health education sessions were provided to index cases' family members. Patients diagnosed as positive were supported to register at the nearest PMDT/GeneXpert site. Given the lack of diagnostic machines, the IHSS-SD Activity procured five additional GeneXpert machines for the districts.

Community awareness sessions

To effectively monitor and respond to TB, it is imperative to raise awareness about the disease symptoms and mode of transmission, prevention, diagnosis, and treatment and, most importantly, to destigmatize the disease through health education at the community level. In order to augment the contact tracing and screening activities, IHSS-SD field teams provided awareness sessions to family members of the index cases and members of the community on TB prevention, symptoms, diagnosis, and treatment. Field teams conducted 2,414 community awareness sessions reaching 16,752 individuals.

Establishing satellite PMDT sites

IHSS-SD established three satellite PMDT sites—one in Sindh and two in KP. These sites expanded the network of PMDT sites, making lifesaving health services more accessible to DR TB patients. These satellite sites are linked to their respective regional PMDT sites and provide services to patients within

⁴ <https://www.usaid.gov/pakistan/health>

their district. These sites greatly reduce travel and other expenditures of patients suffering from DR TB. Expanding the reach of services through satellite PMDT sites has been shown to improve compliance with treatment and treatment success.

Coordination Meetings

IHSS-SD regularly coordinated with the TB control programs and other stakeholders at both the provincial and district levels.

- Regular meetings and coordination with the PTPs provided a forum for sharing updates and resolving implementation challenges.
- IHSS-SD district TB teams participated in the intra-district quarterly review meetings and presented the project's progress and contributions.
- Awareness sessions and screening activities were jointly organized in close coordination with districts and other key stakeholders including the education department, local NGOs, community organizations, and prisons.



| A health worker hosts a TB awareness session in Larkana.

RESULTS

Between January and September 2021, IHSS-SD identified 243 cases of bacteriological positive TB (29 drug resistant and 214 drug sensitive). This outperformed the target of 220 TB cases (inclusive of both drug resistant and drug sensitive TB cases). All 243 detected cases enrolled in their respective basic management units and programmatic drug resistant TB (PMDT) sites for case management. Without contact tracing, these newly detected cases of TB would have remained undetected within their communities for a prolonged time. It is estimated that each TB patient can transmit the disease to approximately 10-15 contacts in one year.¹ Without contact tracing, it is possible that there would have been an additional 2,430- 3,645 TB cases in the pilot districts.

This pilot provided ample evidence that tracing and screening contacts from all TB cases helps improve early detection of unknown or undetected TB cases and reduces TB transmission in communities. Additionally:

1. As a result of IHSS-SD support, PTPs include active contact tracing in their TB strategic plans.
2. The expansion of PMDT services through satellite sites allowed household, workplace, and social contacts of index TB cases to access diagnostic, registration, and treatment services.
3. Community awareness sessions played an important role in destigmatizing TB and helping communities identify more cases and support people to get tested. In total, more than 17,000 men and

women were reached through 2,600 awareness sessions.

4. The IHSS-SD Activity established PMDT sites at DHQ Qambar Shahdadt, Charsadda, and Lakki Marwat, providing furniture and equipment, including five GeneXpert machines. This improved PTP testing capacity.
5. IHSS-SD case identification efforts helped prevent further undiagnosed cases, which can place major social, mental, and economic burdens on families. Epidemiologically, identifying 243 cases prevented an estimated additional 2,430- 3,645 TB cases in the pilot districts.

1 <https://www.who.int/news-room/fact-sheets/detail/tuberculosis>



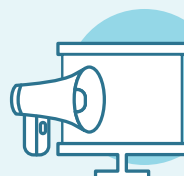
Contact tracing and testing efforts prevented an estimated additional **2,400–3,600** new cases of TB in the pilot districts.



5 GeneXpert machines procured to increase districts' diagnostic capacity.



Sindh and KP provincial TB departments supported to follow up on **2,473** drug resistant and drug sensitive index cases and trace **16,823** contacts.



Over **16,000** people reached through **2,414** community awareness sessions.



3 satellite PMDT sites 1 in Sindh and 2 satellite PMDT sites in KP established to increase access to critical TB services.



214 drug sensitive and **29** drug resistant TB cases identified and diagnosed through testing of **7,296** symptomatic contacts.

WAY FORWARD

Screening for TB and tracing, screening, and testing symptomatic contacts of existing TB patients in KP and Sindh is a success story and can be scaled up at the national level. Both PTPs are planning to fund this intervention in their next funding cycle. Established satellite PMDT sites will be further supported by setting minimum standards and SOPs, HR needs, and operational budgets. The IHSS-SD Activity will train staff appointed to manage satellite PMDT sites. Training will also be provided to health care providers working in health facilities that are not attached to basic management units for case detection, management, and TB referrals. As the world emerges from the COVID-19 pandemic, future USAID-funded GHSA investments in Pakistan will have a solid foundation to build upon, particularly in the area of infectious diseases including TB.