



ICAP support included revitalizing village health worker networks to strengthen facility-community linkages and boost community involvement in TB/HIV activities. Photo: Jake Price.

# INTEGRATING TB AND HIV SERVICES TO MITIGATE THE IMPACT OF LESOTHO'S DUAL EPIDEMIC

## Project Overview

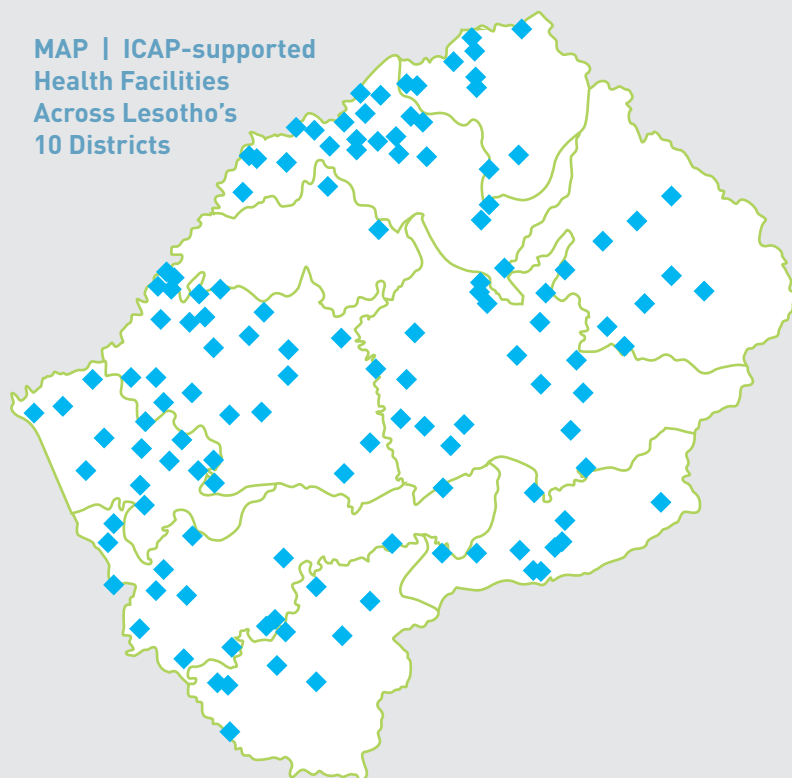
From 2009 to 2015, with funding from the Centers for Disease Control and Prevention, ICAP at Columbia University collaborated with Lesotho's Ministry of Health to integrate tuberculosis (TB) and HIV services at every level of the health system, enabling a more coordinated response to the nation's dual TB/HIV epidemic.

ICAP's efforts began by supporting the development of national-level policies and guidelines, and subsequently enhanced capacity at the district and health facility level to implement and scale-up services. ICAP also strengthened essential TB laboratory systems; supported the harmonization of TB and HIV monitoring and evaluation systems; and harnessed existing village health worker networks to conduct community-based TB screening, treatment, and follow-up. ♦

## Background

With the second highest HIV prevalence and TB incidence rate in the world, Lesotho faces a dual TB/HIV epidemic that has severely impacted health outcomes in the country. Because approximately 74 percent of TB patients in Lesotho are also HIV-infected, an integrated health sector response is needed to achieve improved outcomes for patients with both HIV and TB as well as to enable the provision of services in the most efficient manner. Before this project was initiated in 2009, Lesotho's national HIV and TB programs were administered independently at all levels of the health system, resulting in lack of coordination of these services for patients with both HIV and TB. ♦

MAP | ICAP-supported Health Facilities Across Lesotho's 10 Districts



## Core Project Approaches

Building on its longstanding history working hand-in-hand with Lesotho's Ministry of Health since 2005, ICAP utilized the following approaches to support the integration of TB and HIV services at all levels of Lesotho's health system, with the aim of increasing co-infected patients' access to seamless care and treatment for both TB and HIV:

### 1. Cultivating National-level Collaboration and Developing Standardized Policies and Guidelines to Achieve TB/HIV Integration

- As the Ministry of Health's lead clinical TB/HIV partner in Lesotho, ICAP worked to revitalize the national TB/HIV Technical Advisory Committee, bringing together key stakeholders and leading efforts to develop an extensive package of **national-level policies, guidelines, registers, reporting tools, and training materials** focused on accelerating the integration of TB and HIV services throughout the country. These standardized tools would serve to guide all subsequent TB/HIV integration activities at the district, facility, and community levels.
- ICAP's close working relationship with the Ministry of Health allowed for **joint conceptualization of new models** for integrated TB/HIV services, with an emphasis on the provision of one-stop services in both TB and HIV service delivery settings. Four specific service delivery models were developed (see Figure 1), with the goal of transitioning all facilities to one of these models, depending on the unique characteristics and needs of each facility.

FIGURE 1  
Models of TB/HIV Integration

**MODEL 1** | *Complete integration of TB/HIV services within a single clinic, with both TB and HIV services provided by a single health worker*

**MODEL 2** | *One-stop services in independent TB and HIV clinics (i.e., integrating HIV services in the TB clinic and TB services in the HIV clinic)*

**MODEL 3** | *Full integration of HIV services in the TB clinic, while the HIV clinic provides TB screening, diagnosis, and Isoniazid Preventive Therapy (IPT), but refers patients to the TB clinic for TB treatment*

**MODEL 4** | *Incomplete integration, with strengthened referral linkages between TB and HIV clinics*

FIGURE 2  
Three I's Strategy

**INTENSIVE CASE FINDING** | *Screening people living with HIV for TB with a simple questionnaire at each clinical encounter*

**ISONIAZID PREVENTIVE THERAPY** | *Initiating people living with HIV without active TB on isoniazid to prevent TB*

**TB INFECTION CONTROL** | *Implementing measures to prevent the spread of TB in health facilities*

### 2. Transforming Policy into Practice: Integrating TB and HIV Services in Lesotho's Ten Districts

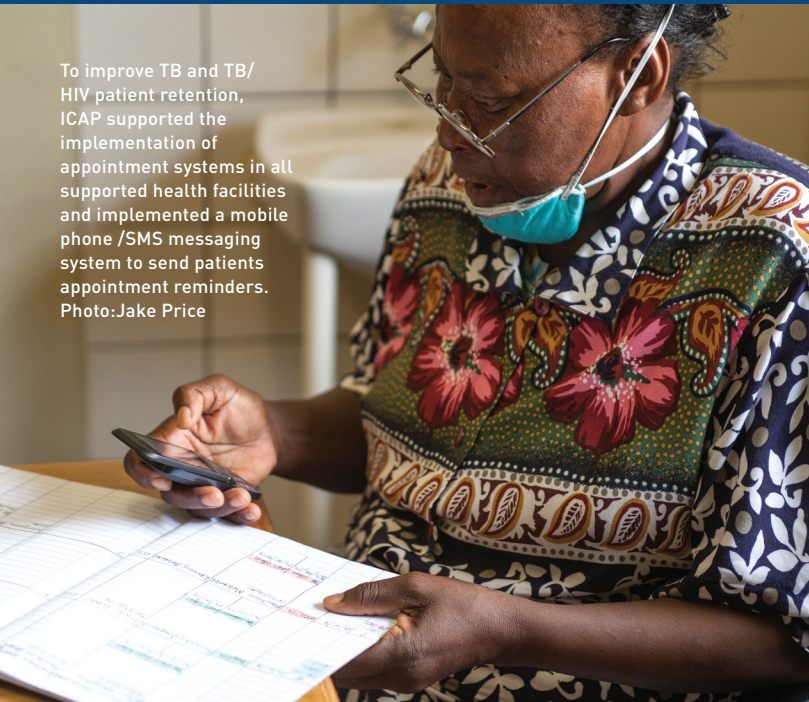
- ICAP worked with Lesotho's District Health Management Teams (DHMTs) to conduct a **situation analysis** in each district and to develop **work plans** focused on the integration of TB and HIV services in each district.
- ICAP worked hand-in-hand with DHMTs to roll out the World Health Organization's **"Three I's" strategy** in each of Lesotho's ten districts. This set of three interventions aims to effectively prevent and treat TB among people living with HIV (Figure 2).
- ICAP collaborated with DHMTs to conduct joint **supportive supervision visits** to health facilities, strengthening district-level supervision of TB/HIV integration and increasing DHMT's ownership of TB/HIV integration activities.
- ICAP helped convene **quarterly program review meetings** in each district to facilitate the use of data to improve TB/HIV health outcomes. In poorly performing districts, ICAP worked with DHMTs to develop operational plans that leveraged innovative strategies to improve outcomes.
- By placing multidisciplinary teams in each district that included doctors, nurses, and staff specializing in monitoring and evaluation and adherence and psychosocial support, ICAP provided ongoing **technical assistance through clinical mentorship** that continually strengthened DHMT members' planning, mentoring, and managerial skills.

### 3. Building Health Worker Capacity to Provide Integrated TB/HIV Services

- Utilizing the new training packages created as part of its national-level work, ICAP worked with the Ministry of Health to implement **national, district, and facility-level trainings on TB/HIV integration** for all cadres of health workers. This included conducting trainings in each district focused on rolling out the "Three I's" strategy.



To improve TB and TB/HIV patient retention, ICAP supported the implementation of appointment systems in all supported health facilities and implemented a mobile phone /SMS messaging system to send patients appointment reminders. Photo: Jake Price



- To reinforce concepts learned in training, ICAP supported **ongoing on-site mentorship** to health workers at over 150 health facilities, including doctors, nurses, and lay counselors.
- ICAP collaborated closely with national partners to develop and/or adapt a comprehensive set of **TB/HIV job aids** to guide health workers in their day-to-day clinical practice and to help ensure the quality of services provided.

#### 4. Providing Direct Support to Health Facilities to Integrate TB and HIV Services

- In collaboration with DHMTs, ICAP supported the implementation of **TB screening, diagnosis, and treatment** in all public-sector HIV clinics.
- ICAP supported the implementation of **isoniazid preventive therapy (IPT)**, first in all district hospitals, then at filter clinics, and finally at all public sector health centers in Lesotho.

### FIGURE 3

#### Implementing Targeted Interventions for High-Risk, Vulnerable Populations

**PRISON INMATES** | *ICAP collaborated with Lesotho Correctional Services to develop and implement a minimum package of TB and TB/HIV services in 10 of Lesotho's prisons.*

**MIGRANT MINERS** | *ICAP strengthened cross-border referral systems between South Africa's mines and health facilities in Lesotho by developing a bi-national information system that supports continuity in TB diagnosis, treatment, and care for Basotho miners who regularly travel back and forth between Lesotho and South Africa.*

- ICAP supported **150 health facilities** to develop their **TB infection control plan** and create infection control committees responsible for overseeing implementation of the plan at the facility level.
  - ICAP supported **150 TB clinics** to expand their services to include **HIV care and treatment services**.
  - ICAP supported the institutionalization of regular **multidisciplinary team meetings at 17 hospitals** and **four filter clinics** to strengthen intra-facility coordination.
  - ICAP supported the implementation of a **system of performance-based incentives** as a strategy to motivate health workers to improve the quality of health services being provided. Regular feedback was given to health facilities on their performance related to TB and HIV health care and, on a periodic basis, the facility with the highest quality services in each district was granted a reward.
  - To help health workers **better support patient adherence** to treatment, ICAP developed an Adherence and Psychosocial Support Protocol and implemented it at all supported health facilities, providing health workers with standardized steps for preparing TB and TB/HIV patients for treatment and providing them with ongoing adherence counseling.
  - To **improve patient retention**, ICAP supported the implementation of **appointment systems** in all supported health facilities to track TB-and TB/HIV co-infected patients, and **implemented a mobile phone application/SMS system** to send patients appointment reminders.
  - ICAP also implemented innovative, targeted TB/HIV interventions for vulnerable populations of prison inmates and migrant mine workers (see Figure 3).
- #### 5. Strengthening Lesotho's Laboratory Systems
- ICAP played an instrumental role in the national **roll out of GeneXpert**—a state-of-the-art technology that allows for the rapid diagnosis of TB and rifampicin resistance—collaborating with the Ministry of Health to develop a national roll-out plan, XpertMTB-RIF clinical algorithm, and training curriculum to support the introduction of GeneXpert machines in all ten districts.
  - To improve the ability of health center staff—who lack access to on-site smear microscopy—to diagnose TB, ICAP strengthened health center **systems to ensure the daily collection, storage, and referral of sputum samples**, including supporting a system to transport sputum samples via motorcycle to district laboratories.



ICAP provided ongoing technical assistance through clinical mentorship to strengthen planning, mentoring and managerial skills at the facility and regional level. Photo: Jake Price

## 6. Harmonizing TB and HIV Monitoring and Evaluation Systems and Strengthening Public Sector Capacity to Utilize Data for Decision-Making

- ICAP supported the development and dissemination of **revised data collection and reporting tools** that would effectively capture both TB and HIV data in an integrated way.
- ICAP was instrumental in the customization and roll-out of an **electronic medical record** that facilitates the collection of patient-level TB and HIV data for the purpose of patient management and program monitoring.
- To promote data use at the facility level, ICAP supported the **transition from a district-based TB reporting system** to a facility-based system. The new system allows each health facility to review and analyze its own data related to TB/HIV service provision, promoting greater ownership and accountability of services among health facility staff.
- ICAP served as the Ministry of Health's lead partner in implementing a national **Electronic TB Register** capable of generating district-level reports. ICAP helped revitalize district-level monitoring and evaluation teams by training them on all new TB/HIV tools and building their capacity to monitor district-level progress towards service integration.
- ICAP supported timely **reporting and feedback within and between each level of the health system**, from the facility up to the national level. This included institutionalizing a process of feeding data back to health facilities on a quarterly basis, as well as quarterly data review and evaluation meetings at the district and national level to track program performance and adjust activities in order to continually improve TB/HIV health outcomes. ICAP also worked hand-in-hand with the

National Tuberculosis Program to conduct **quarterly data verification and quality assurance activities**.

## 7. Revitalizing Village Health Worker Networks to Strengthen Facility-Community Linkages and Boost Community Involvement in TB/HIV Activities

- ICAP supported the Ministry of Health to conduct a **national mapping of active village health workers**, a cadre that serves as a vital link between Lesotho's health facilities and communities.
- ICAP developed a **curriculum** to train village health workers on supporting TB patients; created **monitoring tools** to help them track their work; and supported **trainings** for this cadre at all the ICAP-supported health facilities.
- ICAP implemented a system whereby **each patient diagnosed with TB was assigned to a village health worker**, who was then charged with supporting the patient's directly-observed therapy, following up with the patient if he or she missed an appointment, and tracing any contacts.
- In support of the Ministry of Health's new village health worker model, ICAP supported the engagement of "**lead**" **village health workers** at each facility to strengthen patient adherence and support, and to strengthen the linkage between the facility and community.
- All ICAP-supported sites institutionalized **monthly village health worker meetings** to exchange information on patients missing appointments, defaulters, the need for contact tracing, and community-based TB screening. Over time, these health workers also became increasingly involved in facility-based services, including on-site health education, TB screening, and patient triage.

## Key Achievements:

As a result of this project,

- Both **HIV testing** among TB patients and **TB screening** among people living with HIV increased to **over 95%** in all ICAP-supported health facilities by 2013.
- The percent of eligible TB/HIV co-infected patients **initiating antiretroviral therapy (ART) during TB treatment** increased nationwide from **26 percent in 2009 to 76 percent in 2013**.
- From 2009 to 2013, **14,107 people living with HIV were diagnosed and treated for TB** at ICAP-supported health facilities.
- By 2013, **IPT was provided to 26,888 eligible people living with HIV**, and **cotrimoxazole prophylaxis was being provided to over 99 percent of TB patients** who tested positive for HIV.





ICAP strengthened Lesotho's existing village health worker system to increase community-based TB screening and TB treatment support. Photo: Jake Price

## The Way Forward

This project had remarkable successes, including dramatically increasing the uptake of ART among HIV patients on TB treatment in Lesotho. Maintaining these positive outcomes will require a continued focus on the key interventions that produced them, including ongoing attention to ensure that the “Three I’s” strategy is effectively implemented to prevent and treat TB among people living with HIV.

There is still substantial work to be done to improve lagging TB detection rates and treatment outcomes, pointing to a need for even greater community involvement in both case detection and patient support. ICAP is currently working to increase knowledge of enhanced models of TB/HIV care in Lesotho through its START Study, which focuses on evaluating a combined set of interventions that aim to improve ART initiation and retention during TB treatment, as well as TB treatment success, among co-infected patients.

- By 2013, **all 21 public sector hospitals and filter clinics** were offering comprehensive TB/HIV services in one location to patients with both HIV and TB, in line with either model 1 or 2 of TB/HIV integration (see Figure 1).
- During project implementation, over **7,458 health workers** were provided with comprehensive TB and TB/HIV training.

## Impact and Lessons Learned

Through ICAP’s comprehensive support at the national, district, facility, and community levels, major strides were made toward integrating HIV and TB services in Lesotho’s public health sector. Lessons learned include:

- It is important to have the necessary commitment at the national level to make TB/HIV integration happen successfully. Service integration requires a marked shift in the mind-set of health personnel at each level of the health system, and having the issue prioritized **at the national level** greatly facilitates this shift at both the district and health facility levels.
- It is feasible to effectively integrate TB and HIV services in high-burden settings utilizing **existing health workers** already providing these services separately in health facilities.
- It is crucial that health workers not only attend relevant trainings, but that they receive **ongoing mentorship and supportive supervision** until comfortable providing both TB and HIV services in an integrated fashion.

## ABOUT ICAP

ICAP was founded in 2003 at Columbia University’s Mailman School of Public Health. Now a global leader in HIV and health systems strengthening, ICAP provides technical assistance and implementation support to governments and non-governmental organizations in more than 21 countries. ICAP has supported work at more than 3,380 health facilities around the world. More than 2.3 million people have received HIV care through ICAP-supported programs and over 1.4 million have begun antiretroviral therapy. ♦

Online at [ICAP.columbia.edu](http://ICAP.columbia.edu)

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