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CHALLENGE TB

TECHNICAL BRIEF



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Innovative one-stop shop approach for TB/HIV integration in Ethiopia

PROJECT CONTEXT

Vulnerabilities associated with higher risk of infection and progression to tuberculosis (TB) disease are often linked to higher risks of exposure to infectious peers living in overcrowded housing conditions or correctional facilities. Conditions that lead to weakened immune status, such as HIV, malnutrition, and diabetes, also increase the risk of acquiring TB. Vulnerabilities arising from lack of awareness of signs and symptoms and poor access to health care are associated with delayed or missed diagnosis and onward transmission of the disease (Lönnroth 2015).

Globally, urban populations, prison inmates, migrant workers or daily laborers, and female sex workers are identified as vulnerable groups for TB and HIV. Individuals from these groups often come from settings with significant geographic and financial barriers to health access, in addition to stigma and discrimination. Global strategies have separate operational targets of reaching at least 90%

of vulnerable TB populations through improved access to services, systematic screenings, and active, new case-finding methods (de Vries 2017; Stop TB 2016). Finding TB and HIV cases among these high-risk groups is critical in controlling TB and HIV epidemics.

In high TB- and HIV-burden settings, the two diseases reinforce each other and share common risk factors (Fujiwara 2012). Single, categorical services provided to persons with multiple, related risk factors miss opportunities to diagnose, treat, and prevent TB and/or HIV. For example, people living with HIV (PLHIV) are at a high risk of TB and are optimally served by integrated TB and HIV services and policies. Ethiopia is a high TB/HIV burden country that started implementing globally recommended collaborative TB/HIV activities in 2004, but several implementation challenges still remain (FMOH 2007).

ETHIOPIA

PROBLEM STATEMENT

Both global and Ethiopian national guidelines recommend integrated approaches to tackle the dual burden of TB and HIV. It is also believed that an integrated, family-based approach to TB and HIV care can remove access barriers, reduce delays in diagnosis, and improve management of TB among women, children, and other vulnerable groups. However, there is considerable variation across high

disease-burden countries in terms of translating these recommendations into action. In Ethiopia, for example, TB and HIV clinics collaborate with each other through cross-referrals.

Under ideal conditions, both TB and HIV patients should receive a full package of services in one place—an approach often referred to as “one-stop shop.” However, there are several barriers to implementing such an approach. For instance, TB

services are far more decentralized than HIV treatment services, making a one-stop shop challenging under such circumstances. Breach of infection control protocols is another unresolved issue.

To address these challenges, the USAID-funded Challenge TB (CTB) Project designed an innovative family-matrix-guided implementation approach in selected demonstration sites in Ethiopia.

PROJECT APPROACH

This demonstration project was implemented through a collaborative process within the framework of existing national guidelines under the direction of senior leadership from Amhara and Oromia regions and Dire Dawa and Harari city administrations. First, the CTB Project team developed a concept note that was shared with the regional health bureaus (RHBs) of both regions and city administrations. The concept

note was then discussed at regional TB/HIV working group meetings where consensus was reached on developing detailed implementation research protocols. Regional research ethics committees reviewed and approved the protocols. Senior management team members and TB focal persons were designated as principal investigators in their respective regions and CTB teams were co-investigators.

Implementation sites were selected based on high TB/HIV co-infection rates obtained from routine programmatic data. Three entry points were used to identify target populations for the project. Figure 1 summarizes entry points and major activities at each of them, and table 1 provides a comparison of conventional and innovative approaches added across two points of service delivery.

Figure 1. Strategic framework of a one-stop shop TB and HIV integration in Ethiopia

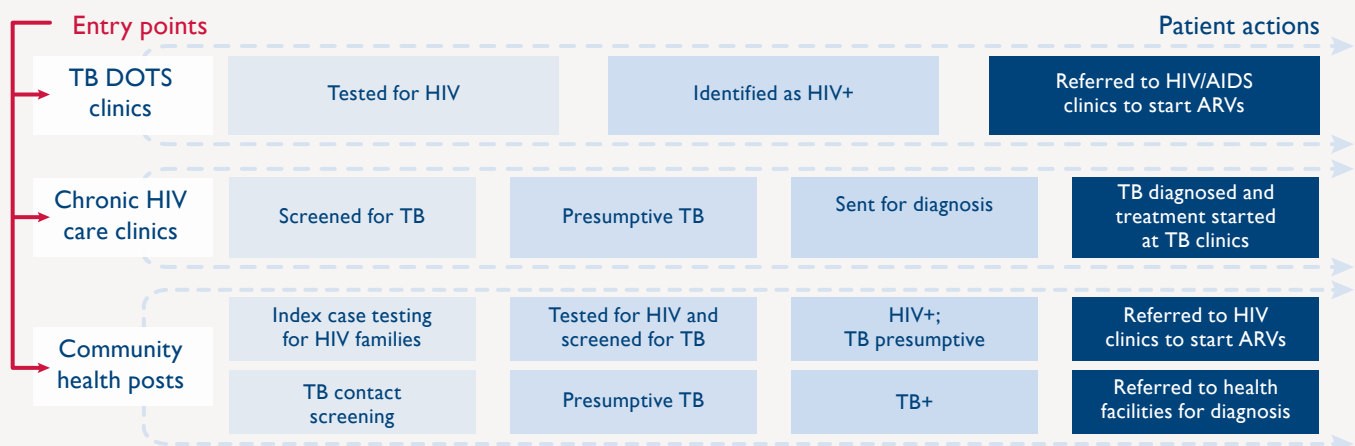


Table I. Comparison of conventional and innovative components added across two points of service delivery

POINT OF SERVICE DELIVERY	CONVENTIONAL APPROACH	INNOVATIVE COMPONENTS ADDED
TB directly observed treatment, short course (DOTS) clinic	<ul style="list-style-type: none"> - Current index TB cases screened for HIV - HIV-positive patients linked to antiretroviral therapy (ART) - Contacts of current index TB cases screened for TB - Acid-fast bacilli microscopy used as primary test for presumptive TB cases 	<ul style="list-style-type: none"> - Contacts of index TB cases tested for HIV - Pool of index TB cases expanded to include those treated 1-3 years previously (retrospective contact investigation) - GeneXpert used as primary test - Active community-based tracing of contacts of index TB patients
Chronic HIV clinic	<ul style="list-style-type: none"> - PLHIV screened for TB - GeneXpert used as primary test for presumptive TB patients - Confirmed TB patients linked to TB DOTS clinic - Close family members of index PLHIV tested for HIV - Newly identified PLHIV treated with antiretroviral drugs 	<ul style="list-style-type: none"> - Close family members of index PLHIV tested for TB - GeneXpert used as primary test for testing family members with presumptive TB - Confirmed TB patients linked to ART - Active community-based tracing of family members of index PLHIV

PROJECT IMPLEMENTATION

The CTB Project implemented this project in 14 clinics in 6 towns between August 2017 and January 2018:

Woldiya in Amhara; Shakiso, Megado, and Adola of Oromia; and Dire Dawa and Harari cities. These towns have TB/HIV co-infection rates exceeding 10%. The phased implementation approach listed below was followed.

Build consensus on the implementation approach

The project team initiated a consultative process to reach consensus on the need for the demonstration project, appropriateness of the selected sites, and alignment of the proposed package of interventions with regional priorities. The consultative process led to formation of regional task forces that guided and monitored implementation of the project.

Assess the baseline

Once consensus was reached at the regional level, the project team conducted a baseline assessment at the four selected sites. The assessment covered the following

broad areas: availability and adequacy of existing TB and HIV services; trends in TB case-finding and treatment outcomes; trends in HIV testing and positivity rates; HIV care and treatment data, including management practices of opportunistic infections; and estimated size of vulnerable population groups both for TB and HIV.

Define the final intervention packages

Findings from the baseline assessment guided further refining of specific interventions. Accordingly, the following package of interventions was agreed upon:

- Perform retrospective TB contact investigations
- Screen and test the family of HIV index cases for TB and HIV (a family matrix card is used to identify and manage family members of PLHIV)
- Use GeneXpert MTB/RIF as the first line of TB diagnosis in the pilot study
- Link TB and HIV cases to TB DOTS and chronic HIV care, respectively

- Distribute national TB and HIV diagnostic algorithms and orient health care workers (HCWs) on the standard use of the algorithms

Implementation of Intervention Packages

The above intervention packages were implemented at the following points of service delivery.

TB DOTS clinic

The retrospective contact investigation was used as an entry point for TB and HIV services. In the investigation, trained nurses and data collectors reviewed the records of all TB patients currently on treatment and those treated in the preceding three years. In collaboration with and supervised by health extension workers (HEWs), the data collectors paid home visits to screen every household for presumptive TB and offer confidential HIV testing and counseling. Patients or samples were referred to a GeneXpert center for TB diagnosis. Eligible contacts, individuals having

contact with presumptive TB index cases over the past year, those without TB, and PLHIV were linked to isoniazid/isonicotinoyl hydrazine (INH) preventive therapy services. Confirmed TB cases were linked to the standard TB treatment and care. HIV+ cases were referred to the health facility for chronic HIV care.

Chronic HIV care clinic

Here the family matrix card was used as an entry point for TB and HIV services. This approach was expanded to include TB screening as an additional activity. The specific activities included the following:

- Obtain informed consent from patients currently on ART
- Review their index cards
- Ask them to bring their family members to the clinic or obtain oral consent to visit their homes
- Screen for TB and test for HIV

Again, the presumptive TB and HIV+ cases were sent to nearby health facilities for confirmation and initiation of treatment. TB cases were put on TB DOTS, and HIV+ cases were linked to a chronic HIV care clinic.

Outreach activities and referral linkages

The HCWs went to the community with a list of TB index cases and HIV+ people. The HEWs joined the HCWs during the home visits, looking for the contacts of TB index cases and family members of HIV+ individuals. These visits were scheduled and planned. Together with the HEW, the HCWs paid home visits on weekends and after 3 pm during weekdays so that routine, facility-level services were not compromised. Visiting homes after regular clinic hours was defined as an outreach activity.

During the outreach visits, the HEWs and HCWs screened the

contacts of TB index cases and carried out confidential HIV testing and counseling of presumptive TB cases and HIV+ individuals. The identified presumptive TB cases and HIV+ patients were sent to the nearby health facility. At the health facility, the presumptive TB cases were evaluated for TB and other related morbidities per the national guideline. The HIV+ individuals underwent the standard procedure at chronic HIV clinics to start on ART and other care. Feedback was sent to the referring team and the HEW received information about the outcome of the evaluation.

Monitoring and evaluation of outcomes

Progress was reviewed and monitored through quarterly, joint supportive supervision visits by project teams and RHB staff. The yields of TB and HIV+ rates were calculated as the outcome measures of the interventions.

RESULTS AND ACHIEVEMENTS

The project screened family members of 114 TB patients, 80 PLHIV, and 20 TB/HIV co-infected index cases. Of 527 family members screened, 198 (38%) presumptive TB and 44 (8.3%) definitive TB patients were detected.

The proportion of family members diagnosed with TB was 9.4%, 1.2%, and 5% among TB only, HIV+ only, and TB-HIV co-infected groups, respectively (table 2). The HIV+ rate was the same (2.6%) for both

contacts of “TB only” and “HIV only” index cases whereas the rate was 11.6% among contacts of TB/HIV co-infected index cases. There was no significant association between type of index cases and TB case.

Table 2. Family members diagnosed with TB only, HIV+ only, and TB-HIV co-infection

VARIABLES	TB ONLY INDEX CASES	HIV+ ONLY INDEX CASES	TB/HIV INDEX CASE	ALL HIV+ (HIV ONLY AND TB/ HIV) INDEX CASES	ALL TB (TB ONLY AND TB/HIV) INDEX CASES
Number of index cases	114	80	20	100	134
Number of family members screened for TB	406	163	121	284	527
Number of presumptive TB cases identified	224	10	74	84	298
Number (%) of TB cases identified	38 (9.4)	2 (1.2)	6 (5.0)	8 (2.8)	44 (8.3)
Number of family members tested for HIV	116	151	69	220	185
Number (%) HIV+ among tested	3 (2.6)	4 (2.6)	8 (11.6)	12 (5.5)	11 (5.9)

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LESSONS LEARNED

The use of diagnosed TB and HIV index cases as an entry point for integrated, community-based screening of their contacts served as a high-yield case-finding strategy both for TB and HIV. Implementing the strategy on a wider scale can contribute to early finding of missing people with TB, thus leading to cutting transmissions in the community.

Screening contacts of HIV index cases for TB and HIV is a new experience in Ethiopia, but it proved to be successful. Since Ethiopia has a well-established community health system, this innovative approach can be integrated within the existing community health care platform as the one-stop shop approach of TB/HIV integration.

WAY FORWARD

Results from this pilot will be shared with the broader community to advocate for scale-up of the one-stop shop approach for community-based TB and HIV integration in Ethiopia and beyond.

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