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PATH/Darin Zehrung

Tackling TB and HIV co-infection in Tanzania

RESULTS OF AN INNOVATIVE MODEL LAUNCHED IN TB CLINICS IN SIX REGIONS

SEVEN YEARS OF ACHIEVEMENTS

With support from the US Agency for International Development, PATH worked with the Tanzania Ministry of Health (MoH) to introduce tuberculosis (TB) and HIV collaborative activities beginning in 2005. Since then, PATH's activities in supported regions have resulted in:

- Almost all TB patients being tested for HIV.
- A tripling of the rates of antiretroviral therapy (ART) use among TB/HIV co-infected patients.
- An innovative model for management of TB/HIV co-infection that can be adapted for use in other countries.

A MAJOR SHIFT: HIV TESTING WITHIN TB CLINICS

Tanzania has one of the world's highest rates of TB and also a high rate of TB/HIV co-infection. Almost half of all people newly diagnosed with TB in Tanzania are also infected with HIV. When PATH started working in Tanzania, it was standard practice for a TB patient to be referred to a different section of a health facility or to a different facility for HIV counseling and testing. However, in 2004, international guidance called for introducing collaborative TB/HIV activities whereby HIV testing for TB patients would occur in the TB clinic itself. Having TB nurses do the HIV counseling and testing represented a striking change.

PATH'S TB/HIV INTERVENTION MODEL

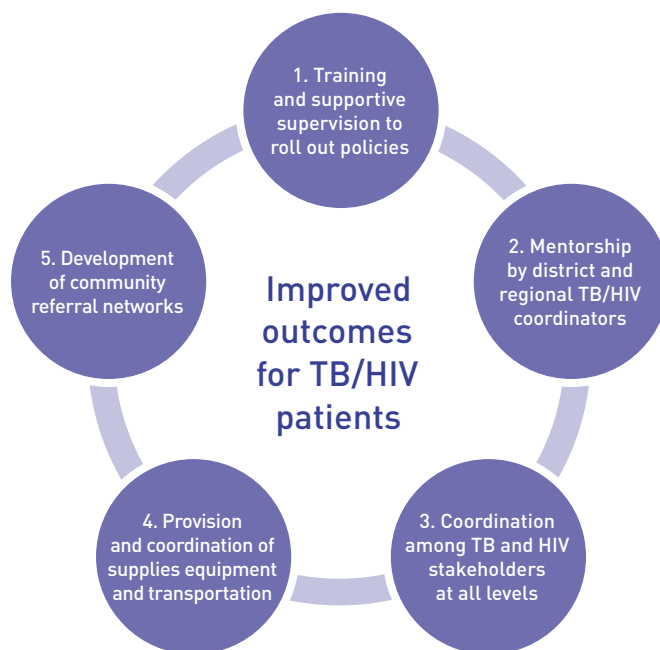
As requested by the MoH, PATH has centered its interventions around TB clinics to complement the work of other partners that focus on introducing TB testing into ART clinics. In collaboration with the National TB and Leprosy Programme and other partners, PATH developed an intervention model to provide health care workers at TB clinics with training, supervision, and ongoing support to tackle TB and HIV in a more integrated way.

PATH's aim was to increase the number of HIV cases detected and to ensure that patients found to be HIV positive (1) initiate TB treatment and cotrimoxazole preventative therapy; (2) receive referrals to ART clinics; and (3) initiate ART.

There are five components to the intervention model, as shown in Figure 1. Each is essential to achieve improved outcomes for TB/HIV co-infected patients.

- 1. Training and supportive supervision to roll out policies.** PATH first conducts a basic assessment of a health facility, and then invites the facility to send staff to a basic five-day training on DOTS followed by a six-day training on TB/HIV collaborative activities. Following the trainings, PATH provides supportive supervision from district-, regional-, and central-level experts who work side by side with health care workers to ensure standardized implementation of the national policies within the context of challenges on the ground.
- 2. Mentorship by district and regional TB/HIV coordinators.** An essential component of PATH's model is recruiting, training, and placing TB/HIV coordinators to work at the regional and district levels. These coordinators are tasked with working with their TB and HIV counterparts to ensure that there is ongoing mentorship of health care workers on all of their day-to-day tasks.

FIGURE 1. The five components of the TB/HIV intervention.



- 3. Coordination among TB and HIV stakeholders at all levels.** PATH supports a range of meetings to identify and overcome challenges, share data, and jointly plan within facilities, districts, and regions:
 - At the regional and district levels, TB/HIV coordinating committees comprised of health management teams, coordinators, and community representatives come together twice per year to oversee implementation of collaborative TB/HIV activities.
 - Regional quarterly experience-sharing meetings, which are unique in PATH-supported regions, bring together district TB/HIV coordinators, TB/leprosy coordinators, AIDS control coordinators, laboratory technologists, and external quality assurance staff to present and analyze data, discuss good practices, flag problems, and retrieve treatment outcome information about patients transferred to other districts within the region.
 - Within facilities, all those who provide TB and HIV services meet quarterly to discuss patient management and infection control measures.
- 4. Provision and coordination of supplies, equipment, and transportation.** PATH helps providers track their stocks of drugs, test kits, and other supplies needed for diagnosis and treatment. PATH also equips coordinators with functioning computer equipment to monitor data and with motorbikes to travel to remote locations to provide supervision.



A PATH laboratory technical officer uses a torch as a light source in a microscope to perform a sputum examination.

5. Development of community referral networks.

Because PATH's TB/HIV collaborative activities are centered around TB clinics, it is important to get patients to come to a clinic when they need care and to provide patients with support after they leave the clinic. To that end, PATH has developed links with and trainings for traditional healers, private drug sellers, and community-based organizations so they can contribute to the effort to increase case detection and improve treatment outcomes. In addition, we work with community volunteers known as sputum fixers, who collect sputum samples from people who may have TB, send the samples for evaluation, and deliver the results.

IMPRESSIVE RESULTS

PATH began implementing this intervention model in 2005 to improve outcomes for TB/HIV patients in 30 facilities across 10 districts. In September 2013, PATH had expanded the intervention model to 1,125 health facilities in 36 districts. This represents 59% of the facilities in the six regions, 18% of the total facilities in the country, and 26% of the national population.

HIV rapid testing is now systematically provided in nearly all TB clinics in PATH-supported regions, and the uptake of HIV testing is close to 100%. The success of the strategy is clearly demonstrated in Figure 2 below, which shows the increase in HIV testing of TB patients from 2006 to 2013 (with a national stockout of HIV test kits in 2012).

TB patients who test positive for HIV in PATH-supported regions are also receiving the three components necessary for the management of TB/HIV:

6. **Initiation of cotrimoxazole preventive therapy (CPT) to prevent a range of infections.** 95% of TB/HIV patients are initiated on CPT at the TB clinic.
7. **Referral to an HIV care and treatment clinic.** 98% of TB/HIV co-infected patients receive a referral;



Engaging private care providers in TB/HIV activities

PATH has a deliberate strategy to involve private facilities to ensure that patients are able to access critical services. Almost 200 (18%) of the 1,102 facilities that PATH supports are in the private sector.

We also train and support private drug sellers to conduct TB screening and provide referrals for diagnosis. Pictured below is one of our recent trainees from Dar es Salaam, who referred a mother and her child for TB testing. Both the mother and child were diagnosed as having TB and subsequently received the treatment they needed.

FIGURE 2. Percentage of TB patients who receive HIV testing in PATH-supported TB clinics.

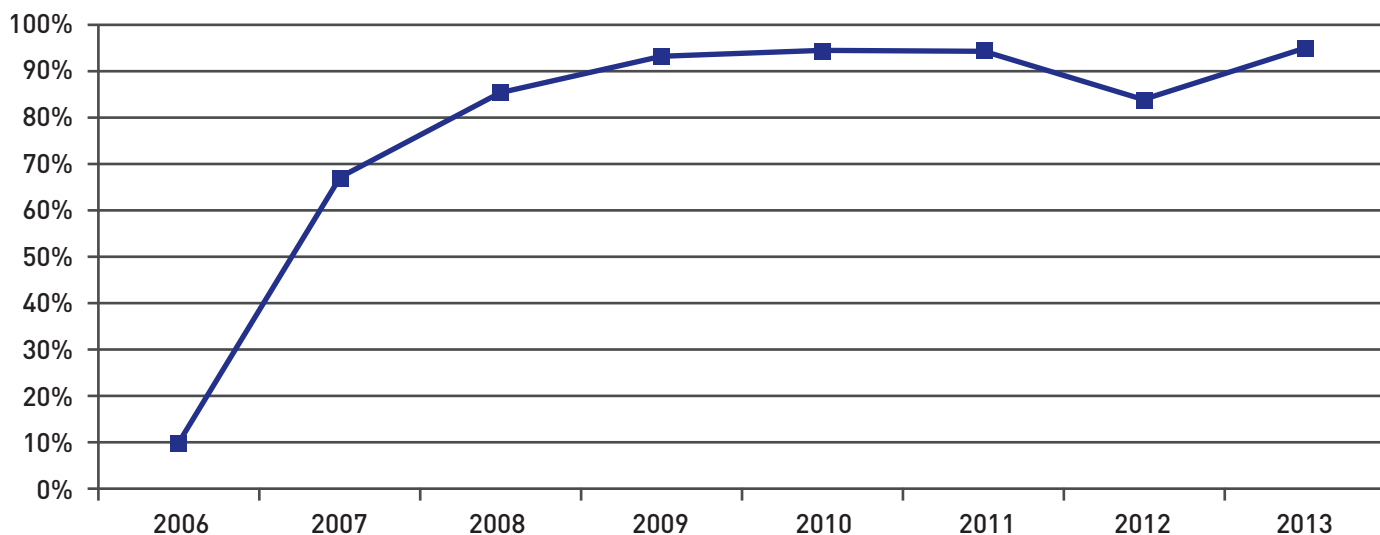
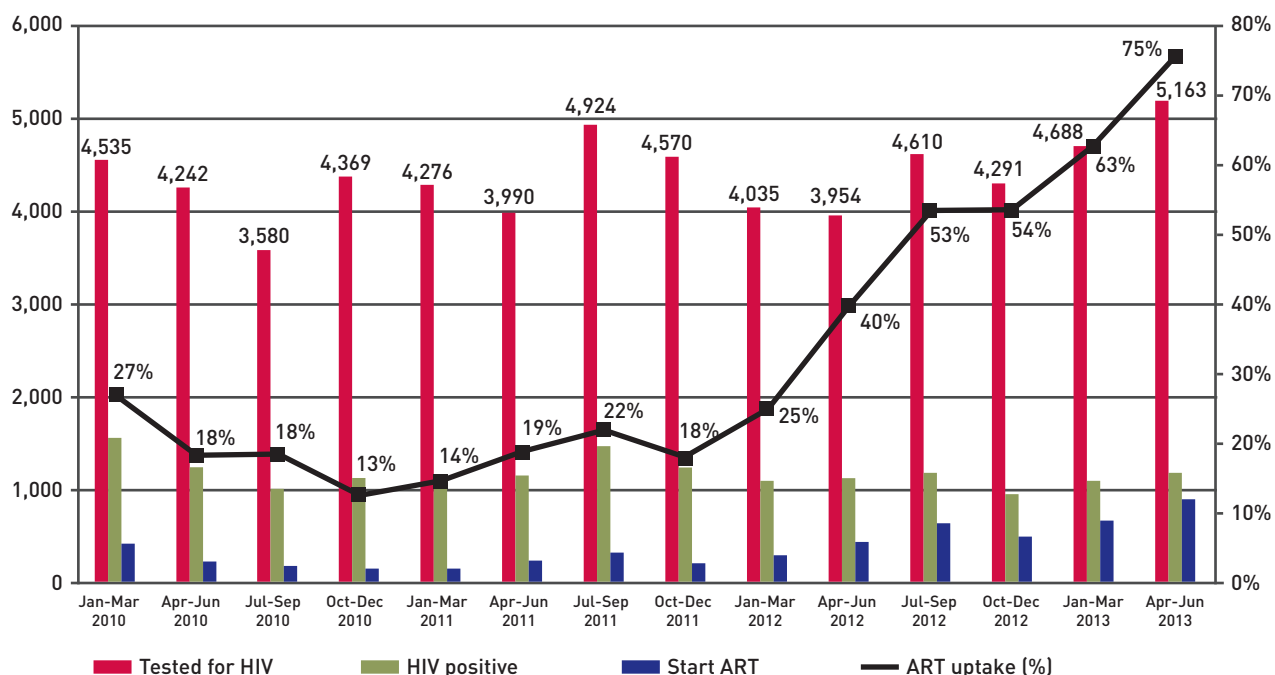


FIGURE 3. Increase in percentage of TB/HIV co-infected patients who are enrolled early on ART in PATH-supported regions.



81% of those referred are registered at a care and treatment clinic within six months.

8. Initiation of ART. 75% of TB/HIV patients start ART.

In addition, TB/HIV co-infected patients are now starting ART earlier. For many years, international and Tanzanian national guidelines called for these patients to be evaluated for ART eligibility depending on CD4 cell count or clinical stage. Recently, it was found that earlier initiation of ART can significantly decrease mortality and morbidity. In 2010, the World Health Organization issued revised recommendations to start ART in all TB/HIV co-infected patients regardless of CD4 cell count or the clinical stage and to do it within two weeks after starting TB therapy.

Subsequently, the MoH issued revised guidance in May 2012. Though there were some initial concerns about immediate ART initiation, with the counseling of PATH mentors, clinicians are now following this guidance. Over the past year, there has been an impressive increase in the percentage of patients in PATH-supported regions who are enrolled on ART within two weeks after starting TB treatment (see Figure 3).

MOVING FORWARD

As of September 2013, PATH had reached a notification of 6,293 TB cases. Of these, 5,042 (80%) had unknown HIV status. A total of 4,937 people (98% of those with unknown status) were tested for HIV, and 1,044 people (21%) were found to be HIV positive. Among these identified TB/HIV patients, 937 (90%) were registered for HIV care and 770 (74%) were initiated on ART. In addition, 984 people (94%) started on CPT. PATH is committed to continuing our work with the MoH, implementing partners, and community partners to find innovative ways to ensure that all patients receive prompt diagnosis, start and complete treatment, and receive the care they need to tackle TB and HIV.

In addition to the work described above, PATH provides support related to infection control, the programmatic management of drug-resistant TB, introduction of new diagnostics, and detection and treatment of pediatric TB.

For more information, please visit www.path.org or contact Dr. Zahra Mkomwa, PATH Tanzania TB/HIV project director.