BATTLING HIV’S DEADLY CO-Epidemic: Improving and Expanding Care and Treatment for Tuberculosis

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SNAPSHOTS FROM THE FIELD

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Few public speakers get the undivided attention that former South African President Nelson Mandela does – and what he says can have a huge impact internationally. At the 2004 International AIDS Conference in Bangkok, he urged conferees to focus renewed energy on a threat powerful enough to undermine global AIDS treatment efforts.

“Tuberculosis is too often a death sentence for people with AIDS,” said Mandela, who himself had TB when he was a political prisoner in the 1980s. “Today we are calling on the world to recognize that we can’t fight AIDS unless we do much more to fight TB as well.”

Breaking the deadly synergy between TB and HIV is one of the great challenges facing public health programs worldwide. The two diseases are very different: TB is spread primarily by airborne bacteria coughed up by a person with active infection, while HIV is a retrovirus transmitted in blood or other body fluids, most often through sexual contact. Yet each disease – both prevalent in many of the same regions throughout the developing world – accelerates progression of the other, leading to crippling illness and early death.

Most people infected by the TB bacteria – as much as a third of the world’s population – have dormant tuberculosis: an inactive, symptom-free, nontransmissible form of the disease that is kept in check by a healthy immune system. But TB carriers who become infected with HIV, which destroys immunity, are 30 to 50 times more likely to develop active tuberculosis. As a result, millions of people throughout the world who might have remained in the dormant stage of TB for life have progressed rapidly to the active disease, which can kill within months if left untreated.

Active tuberculosis attacks the lungs and other vital organs of people weakened by HIV infection, usually with lethal effect. Among the most dangerous of all opportunistic infections (OIs), TB was responsible for the deaths of approximately 12 percent of all people living with HIV and AIDS (PLHA) in Africa in 2000, according to the World Health Organization.

When TB becomes active, it also becomes contagious – one individual with the active disease can infect 10 to 15 others within the course of a year – and can thus spread rapidly in populations with significant HIV prevalence. Experts believe that the HIV epidemic is the main reason why the number of TB cases has risen dramatically in developing countries in the past two decades, even where tuberculosis had begun to decline. In Rwanda, for example, the number of reported TB cases more than doubled between 1995 and 1999, from 3,057 to 6,557. Such a dramatic increase in prevalence of the active disease means that the risk of TB infection also rises for HIV-negative people, making tuberculosis the only AIDS-related opportunistic infection that poses a serious threat to general public health.

1 *Tuberculosis and AIDS: UNAIDS point of view.* UNAIDS Best Practice Collection, October 1997.
The interaction between HIV and tuberculosis has long been understood, but only recently have public health agencies made large-scale efforts to integrate prevention, treatment and control of both diseases. National TB programs in Africa currently treat less than half of all HIV-positive people who also have active TB, despite the low cost and high treatment success rates. Similarly, many AIDS interventions are only now beginning to include services to test and treat clients infected with TB and other opportunistic infections.

“If we jointly tackle TB and HIV, we can be much more effective in controlling both diseases,” Dr. Peter Piot, UNAIDS executive director, told a conference of international health experts that met in September 2004 in Ethiopia.

Working closely with national public health authorities, Family Health International (FHI) has made significant progress in developing programs that combine services for HIV with treatment of tuberculosis and other opportunistic infections. These U.S.-government-funded efforts in Rwanda, Cambodia, Kenya and elsewhere have required innovative thinking and a commitment to building strong collaborative partnerships among key players in public health – including agencies that haven’t worked together before.

In 2000, IMPACT signed an agreement with the tuberculosis and AIDS control branches of Rwanda’s Ministry of Health to initiate a pilot program for preventing TB and other OIs. The sites chosen for the intervention were two well-functioning, high-volume VCT centers based at the district hospitals in Kabgayi and Rwamagana.

The purpose of the program was to assess the feasibility of integrating preventive treatment (prophylaxis) for TB and other OIs for HIV-positive clients into Rwanda’s public health structure. The program targeted people at least 13 years old who were free of the symptoms of active tuberculosis or other opportunistic infections and who did not have advanced HIV disease. Clinic staff prescribed isoniazid preventive treatment for TB, as well as the antibiotic

A tuberculosis specialist at Kabgayi District Hospital, Rwanda, examines a chest X-ray.

Video still: Rob Ritzenthaler/FHI
cotrimoxazole to prevent other OIs. In addition, the program promoted awareness of TB through outreach to clients’ sexual partners and to communities and provided HIV counseling and testing to TB patients.

BUILDING PARTNERSHIPS

From the start, the national tuberculosis program in the Ministry of Health, the Programme National Intégré de Lutte Contre la Lèpre et la Tuberculose (PNILT), played a central role. At both hospitals, PNILT managed the training of health care workers from the TB, OI and HIV wards in tuberculosis and OI treatment protocols, developed algorithms to help staff determine when TB and OI prophylaxis was appropriate, participated in prevention interventions and oversaw drug supply management and reporting systems. A new referral mechanism among the wards further deepened the collaboration.

“Involving the PNILT was one of the real innovations of this pilot program,” said Dr. Mukadi Ya Diul, director of the Care and Treatment Division of FHI’s Institute for HIV/AIDS. “Their participation brought their expertise to the program and ensured that TB control principles would be implemented within these services.”

Demand was high at the two centers, which were filled with new clients every day. Between September 2001 and June 2002, 2,394 clients sought prophylaxis at the two sites, about 9 percent of whom were medically ineligible or declined to proceed. Of the 2,188 who began treatment, 65 percent received isoniazid for TB prophylaxis, 10 percent received cotrimoxazole for other OIs and 25 percent received both.

After six months, an impressive 69 percent of clients at both facilities remained adherent to their treatment regimen. A larger percentage of clients receiving only isoniazid (73 percent) were adherent in the sixth month, compared to those taking the two drugs (65 percent) and those taking only cotrimoxazole (54 percent). After nine months, 54 percent of all clients at both centers remained adherent.

Later, when Kabgayi District Hospital became one of the two first facilities in Rwanda to offer antiretroviral treatment, the pilot program’s records of client adherence became invaluable.

“We had enough medications for only a few HIV-positive people, and, because of concerns about adherence, a client’s history of adherence to TB or OI prophylaxis became an important criterion for deciding who would get ARVs first,” said Dr. Mukadi. “These people had already proven their ability and willingness to adhere to a long treatment regimen.”

During the pilot program, both hospitals showed substantial success in promoting VCT and other HIV-related services to clients who had entered as TB patients. Between September 2001 and March 2003, 48 percent of those receiving TB treatment at Kabgayi decided to seek testing for HIV infection, as did 68 percent of similar clients at Rwamagana during the same period. At
both facilities, approximately a third of TB clients tested positive for HIV and were referred to post-test counseling and to services to prevent opportunistic infections using cotrimoxazole.

Hospital staff, Ministry of Health officials and FHI continue to review the lessons of the pilot program and of ongoing TB and OI prophylaxis services in Rwanda. One important finding is that demand for these services can strain already overworked medical and counseling staff, particularly in countries – like Rwanda – with a shortage of health care workers. Hospital and clinic staff in Rwanda move frequently between facilities, which means that time and precious resources must be spent training their replacements. These staff constraints severely limited systematic follow-up of clients who had abandoned treatment. And while community education was largely successful, the effort to reach the sexual partners of tuberculosis clients – many of whom have the inactive disease – fell short because little information was targeted to asymptomatic TB carriers.

But the high adherence rates and success in promoting VCT among TB clients make clear that programs that integrate TB, OI and HIV services are not only acceptable to Rwandans but are also in high demand. These programs appear to be feasible within the Rwandan health care system, if sufficient staff can be trained in counseling and treatment protocols, doctors are available to prescribe TB prophylaxis, and funds are in place to cover medication costs.

The programs at Kabgayi and Rwamagana continue, and both have also become antiretroviral treatment sites for clients who need HIV treatment. While control of many opportunistic infections has now become standard within HIV treatment programs throughout the country, TB prophylaxis has not yet been scaled up because national guidelines are still being developed.

THE CONTINUUM OF CARE

While the Rwandan programs for tuberculosis and OIs evolved over time as the needs of VCT clients became clear, IMPACT-sponsored programs in Cambodia built TB and OI testing and treatment directly into the design of HIV/AIDS interventions. Considerable care was taken from the start to integrate a spectrum of health services and to create a tight linkage of care and treatment responsibilities among clinical departments. This approach has created a continuum of care that strengthens public health systems in settings with very limited resources.
A national interest in developing a continuum of care for HIV and AIDS grew out of the realization that Cambodia’s health care facilities needed resources, training and support to provide early diagnosis and treatment for PLHA. In 2002, the Ministry of Health shifted gears to promote the continuum of care through both facility- and home-based care. In 2003, the Cambodian National Center for HIV/AIDS, Dermatology and STD (NCHADS) developed an operational framework for continuum of care, and the government increased the budget for OI drugs sixfold.

This strong national commitment to comprehensive and integrated approaches to HIV/AIDS programming was the basis for a new partnership to launch a continuum-of-care initiative. Working with NCHADS, the Ministry of Health and Catholic Relief Services, IMPACT/Cambodia, with funding from the U.S. Agency for International Development, developed a continuum-of-care program in Battambong Province, where a district-level hospital and four referral hospitals serve HIV-positive people.

The process began with extensive discussions among health care workers and partners of all stripes – private, public, faith-based, community-based, international donors, PLHA groups and more – to determine strengths and gaps in service provision, staff skills and training.

In 2003, the Moung Roussey Referral Hospital became the first facility in Cambodia to offer comprehensive services: voluntary counseling and testing, educational activities, prevention of mother-to-child HIV transmission (PMTCT), prevention of and treatment for tuberculosis and opportunistic infections, home-based care, referral to traditional birth attendants and other key services – all linked through an extensive referral system. When antiretroviral drugs became available in 2004, this strong continuum of care was in place to accommodate new client needs and manage the complexities of treatment for AIDS.

An example of the effectiveness of the approach is the PMTCT program, which is integrated into Moung Roussey’s antenatal care department. When pregnant clients arrive for appointments, they first attend a group session called Mothers’ Class, where birth spacing, infant feeding, nutrition and HIV are discussed. Clients then decide whether to start the process of voluntary counseling and testing by receiving pre-test counseling; more than half continue to the testing stage.
Women who test positive for HIV are referred to the OI department for TB and OI screening and are also asked if they would like to receive home-based care services.

The value of networking becomes especially important when pregnant clients need to make decisions about the upcoming birth. In Cambodia, many pregnant women prefer to use traditional birth attendants, so IMPACT staff offered training in HIV, TB and OIs to birth attendants and set up referral linkages.

“Reaching into communities to utilize skills and spread responsibilities is very effective for our partnership because nobody can do everything,” said Tess Prombuth, senior program officer at FHI/Cambodia. “It’s better to set up relationships with new organizations in the same district so they can complement the work that’s being done.”

The project has shown that the active involvement of health care workers, who contribute to program planning and receive ongoing training and support, makes a huge difference in their attitudes about PLHA, dramatically decreasing stigmatization in care and treatment settings. The speed at which smooth operations at Moung Roussey were established provides a similar lesson in the value of stakeholder engagement and the power of working with a broad array of partners.

The Cambodian government plans to expand the Moung Roussey model throughout the district and to scale up similar services throughout the country, as funding and resources become available.