

Introduction

“WE CAN’T FIGHT HIV/AIDS UNLESS WE DO MUCH MORE TO FIGHT TB.”

~ Nelson Mandela, 2004

TB: The Biggest Killer of People Living with HIV

OVER THE PAST 10 YEARS, AS A CONSEQUENCE OF GREATER POLITICAL WILL AND THE MOBILIZATION OF MASSIVE resources, the world has made historic strides toward reaching the poor with life-saving HIV/AIDS interventions. There is still considerable ground to cover before achieving universal access to services, but in less than a decade over 3 million people in low- and middle-income countries have come to access antiretroviral therapy (ART).

Perversely, in the face of this remarkable global effort, the leading killer of PLWHA continues to be a curable disease: tuberculosis (TB) (Getahun 2008). For upwards of two decades the HIV/AIDS community has known that TB and HIV/AIDS are intimately linked. For several years the World Health Organization (WHO) has asserted that integrating HIV/AIDS and TB services is essential in areas with substantial burdens of both diseases (WHO 2002). Despite a wealth of evidence showing that the TB and HIV epidemics have converged, however, and despite the existence of clear international guidance calling for the integration of TB-HIV efforts, an effective global response to the co-epidemic has not coalesced.

Almost 460,000 PLWHA were estimated to have died of TB in 2007, more than 22 percent of all estimated HIV/AIDS deaths in that year (WHO 2009b, UNAIDS 2008). In Africa, where rates of both diseases are highest, more than half of TB deaths were among those co-infected with HIV. Worldwide, a mere 2 percent of PLWHA were screened for TB (WHO 2009b).

The news, of course, is not all bad. The global commitment to achieve universal access to ART continues to generate massive support, and some programs — such as those in Rwanda supported by the International Center for AIDS Care and Treatment Programs — have built strong models for delivering TB-HIV services in resource-poor settings. Since 2003, however, more than 1.3 million PLWHA are estimated to have died of TB. While the available diagnostic tools are by no means ideal, these deaths can be partially attributed to a persistent neglect to routinely screen PLWHA for the disease most likely to kill them.

WHO projects that \$19 billion is needed to reduce TB deaths among PLWHA by 80 percent by 2015; \$6 billion of this total is needed for integrated TB-HIV activities such as screening PLWHA for TB and providing HIV counseling and testing to all TB patients and others at high risk. As they continue to support the scale-up of HIV/AIDS efforts worldwide, donors have both the obligation and the opportunity to leverage their resources, knowledge, and infrastructure to meet these resource needs, and to see that PLWHA are no longer provided with the hope and the means of living with HIV only to die of TB.

Toward urging a concerted, effective response to TB-HIV, this report examines the efforts of four of the world's largest donors of HIV/AIDS initiatives and asks: *to what extent have they pursued an integrated response to TB-HIV and worked to decrease the burden of TB among PLWHA?*

Background : The TB-HIV Co-epidemic

DESPITE BEING CURABLE IN THE VAST MAJORITY OF CASES, TB IS THE LEADING CAUSE OF SICKNESS AND DEATH among people living with HIV/AIDS (Getahun 2008). Approximately one third of all PLWHA are infected with latent TB infection (LTBI), and HIV's attack on the immune system greatly increases the risk that LTBI will progress to active TB — from a 10 percent lifetime risk among those who are HIV-negative to an 8- to 10-percent annual risk in PLWHA (Getahun 2008, Mendelson 2007). Without proper treatment, approximately 90 percent of PLWHA die within months of developing active TB disease (WHO 2009a).

Table 1. Global Estimated Burden of TB-HIV, 2007

WHO region	Estimated TB incidence (all forms)	Estimated TB incidence rate per 100,000	Estimated HIV prevalence in incident TB cases, %	Estimated TB mortality	% TB deaths in HIV-positive
Africa	2,879,434	363	38	734,891	51
The Americas	294,636	32	11	40,616	19
Eastern Mediterranean	582,767	105	3.5	104,300	7.4
Europe	431,518	49	9.8	63,765	13
South-East Asia	3,165,139	181	4.6	537,616	7.5
Western Pacific	1,919,306	108	2.7	290,546	5.0
Global	9,272,799	139	15	1,771,773	26

Source: Global Tuberculosis Control: Surveillance, Planning, Financing. WHO Report 2009. Geneva: WHO. WHO/HTM/TB/2009.411

At the population level, HIV/AIDS has fueled a rapid growth in the TB epidemic. Coinciding with an increase in HIV prevalence, the number of annual new TB cases in high HIV-prevalent countries has tripled over the last two decades (The World Bank 2008b). With an estimated 65 percent of the world's HIV/AIDS cases and almost 80 percent of all new cases of TB-HIV co-infection, sub-Saharan Africa has borne a disproportionate burden of disease (UNAIDS 2008, WHO 2009b).

With the recent spread of drug-resistant TB, this already complicated interplay between TB and HIV has only become more deadly, more costly, and more difficult to address. In 2006, the first cases of extensively drug-resistant TB (XDR-TB) were reported in South Africa's rural KwaZulu-Natal province. Among the 53 patients with XDR-TB, 52 died — half within 16 days of being diagnosed. Of the 44 XDR-TB patients tested for HIV, all

were positive (Gandhi et al. 2006). Because most countries throughout Africa have little or no capacity to test for TB drug resistance, and due also to the increased difficulty of treatment and the already high mortality associated with standard TB-HIV co-infection, drug-resistant TB has resulted in mortality rates exceeding 95 percent in PLWHA in some settings (WHO 2008b).

The Policy Response

Responding to the threat posed by TB-HIV co-infection requires integrated service delivery and coordination between TB and HIV programs in endemic countries. However, even in countries with high burdens of both diseases, TB and HIV programs have tended to operate independently, addressing TB and HIV in isolation. Policy recommendations from international technical agencies in the late 1990s reinforced this framework, characterizing TB-HIV as a global health challenge that required “a dual strategy for a dual epidemic” (WHO 2002). Under this paradigm, reducing TB-related morbidity and mortality in high HIV-prevalent settings was best served by providing appropriate care for HIV/AIDS and by implementing a robust TB control strategy based on the DOTS¹ model.

In order to more effectively tackle the co-epidemic, in 2004 WHO released new policy recommendations on TB-HIV that called for integrated service delivery and greater collaboration between TB and HIV programs (WHO 2004). These recommendations, codified as WHO’s interim policy on collaborative TB-HIV activities, outlined measures to facilitate collaboration between TB and HIV/AIDS programs as well as key health interventions to effectively address TB-HIV co-infection (Table 2) (WHO 2004). The interim policy explained that TB-HIV coordination does not require the creation of new disease control programs, but rather the establishment of mechanisms for collaboration between TB and HIV/AIDS programs, using existing infrastructure and resources to 1) decrease the burden of TB in PLWHA and 2) decrease the burden of HIV in TB patients. In addition, the policy highlighted that, while DOTS is and has been an effective method for controlling TB prevalence in the general population, additional measures are needed to decrease high HIV-associated TB incidence and to reduce the high risk of TB morbidity and mortality in PLWHA (Corbett et al. 2007).

Donors and health programs that fail to address TB as a part of HIV/AIDS services miss the opportunity to impact the disease most likely to kill PLWHA in developing countries.

1. Directly Observed Therapy Short Course, or DOTS, is the WHO’s recommended clinical model for treating drug-susceptible strains of TB, combining standardized treatment guidelines with supervision and patient support.

Table 2. Recommended collaborative TB-HIV activities

A. ESTABLISH THE MECHANISMS FOR COLLABORATION
A.1 Set up a coordinating body for TB/HIV activities effective at all levels
A.2 Conduct surveillance of HIV prevalence among tuberculosis patients
A.3 Carry out joint TB/HIV planning
A.4 Conduct monitoring and evaluation
B. DECREASE THE BURDEN OF TUBERCULOSIS IN PEOPLE LIVING WITH HIV/AIDS
B.1 Establish intensified tuberculosis case-finding
B.2 Introduce isoniazid preventive therapy
B.3 Ensure tuberculosis infection control in health care and congregate settings
C. DECREASE THE BURDEN OF HIV IN TUBERCULOSIS PATIENTS
C.1 Provide HIV testing and counseling
C.2 Introduce HIV prevention methods
C.3 Introduce co-trimoxazole preventive therapy
C.4 Ensure HIV/AIDS care and support
C.5 Introduce antiretroviral therapy

Source: WHO. Interim Policy on Collaborative TB/HIV Activities. 2004.

In 2008, WHO branded these additional measures to reduce the burden of TB in PLWHA in hopes of spurring greater uptake and implementation of recommended policies (WHO 2008b). Coined the “Three I’s,” these interventions include:

- ▶ Intensified case finding: regularly screening people with at risk for HIV, as well as people in congregate settings (such as mines, prisons, or military barracks) for TB, providing appropriate treatment and care, and then providing the same services for household contacts.
- ▶ Isoniazid preventive therapy: providing isoniazid treatment to all PLWHA without active TB, which can reduce the chance of developing TB by 33-67 percent for up to two years.
- ▶ Infection control: taking measures to prevent the spread of TB germs to vulnerable patients, health workers, the community and people living in congregate settings (WHO 2008b).

Benefits of TB-HIV Integration

Providing routine HIV counseling and testing in TB clinics and TB testing in HIV sites allows patients to access a continuum of prevention, care, and treatment services for both HIV/AIDS and TB. Identifying and treating TB in PLWHA can reduce early TB-related mortality and morbidity in co-infected patients and can sustain life long

enough for PLWHA to access antiretroviral drugs and other crucial HIV/AIDS treatments (Crofton, Horne, and Miller 1999). TB testing also provides access to key follow-up services for PLWHA who test negative for TB disease, most notably isoniazid preventive therapy, which protects against the development of active TB (Grant et al. 2005; Zar et al. 2006).

Some researchers estimate that the transmission of TB within clinical settings is responsible for up to 50 percent of TB disease in some HIV clinics, suggesting that a significant portion of new HIV-associated TB cases may therefore be an unintended consequence of the massive scale-up of HIV services (NAM 2008). Infection control measures, properly implemented, reduce TB transmission in healthcare settings, and can thus prevent HIV/AIDS facilities from themselves placing PLWHA at risk for TB infection (Escombe et al. 2007).

Since the release of WHO's interim policy, an increasing number of countries have begun to address TB-HIV in tandem and improve the coordination of their TB and HIV control efforts (WHO 2008a). However, as a result of the separate tracks historically taken by TB and HIV/AIDS programs, cross-screening rates (i.e., HIV testing for TB patients and TB screening among PLWHA) have been very poor, particularly in countries with some of the highest rates of both diseases. Similarly, the provision of follow-up services for the prevention, treatment, and care of co-infection has been anemic (TB/HIV Working Group 2008; ACTION 2008b).

To date, scaling up HIV counseling and testing for TB patients has produced some of the greatest successes in TB-HIV integration, though progress has been strikingly uneven. The highest performing countries report screening over 80 percent of TB patients for HIV, but continent-wide, only 37 percent of all notified TB patients in Africa were reported tested for HIV in 2007 (WHO 2009b).²

In contrast, efforts to reduce the burden of TB in PLWHA have been uniformly poor. Worldwide, only an estimated 2.2 percent of PLWHA were screened for TB in 2007 (WHO 2009b). Similarly, in 2007 fewer than 30,000 people were reported³ to have been placed on IPT (WHO 2009b). Though 100 countries have adopted national policies around IPT, only 29 of these countries reported having actually provided the service (WHO 2009b).

The recent scaling up of HIV testing in TB settings has led to a dramatic increase in the numbers of patients found to be co-infected, boosting global estimates — and creating a more accurate picture — of the numbers of PLWHA who annually develop and die from TB disease. Between 2006 and 2007, the number of new TB cases worldwide remained steady; the number (and proportion) of new TB cases occurring in PLWHA doubled. WHO now estimates that 21 percent of those diagnosed with TB are HIV-positive, amounting to 1.4 million people in 2007. Almost 1.1 million (79 percent) of these newly co-infected persons live in the Africa region, where 38 percent of persons with TB are HIV-positive and 51 percent of TB deaths are among PLWHA. This epidemiological picture, far more serious than previously thought, heightens the urgency with which TB-HIV collaboration must be pursued in endemic countries.⁴

2. This represents an increase over 2006, during which only 22 percent of TB patients in Africa were reported screened for HIV.

3. This number is based on reporting by only 42 countries that together account for 46 percent of estimated HIV-positive people eligible for IPT. As such, the provision of IPT in countries that did not report on this activity for 2007 is not reflected.

4. Because the 2007 TB-HIV data became available shortly before this report's release, its analysis of major HIV/AIDS donors was conducted in the context of 2006 data.

Risk and Opportunity

WHO projects that approximately \$19 billion is needed to reduce TB-HIV deaths by 80 percent by 2015 (ACTION 2008a). This figure includes general TB control and TB research and development costs attributable to HIV, as well as roughly \$6 billion specifically for collaborative TB-HIV activities (Table 3). As international donors invest substantial resources in HIV/AIDS programs in endemic countries, they must contribute their fair share of the \$6 billion needed for TB-HIV activities. Donors and health programs that fail to address TB as a part of HIV/AIDS services not only miss the opportunity to impact the disease most likely to kill PLWHA in developing countries, but they risk exacerbating the TB-HIV co-epidemic as well, by increasing opportunities for the nosocomial transmission of TB among HIV/AIDS patients and health workers (Joshi et. al. 2006).

Table 3. Global TB-HIV Costs, 2008–2015 (USD Millions)

Year	TB Implementation Costs Attributable to HIV			Collaborative TB/HIV Activities	R&D	Total
	DOTS	MDR/XDR	ACSM			
2008	733	26	58	536	667	2,020
2009	791	35	61	615	667	2,168
2010	844	52	66	689	667	2,319
2011	866	54	70	742	667	2,400
2012	912	57	75	768	667	2,479
2013	961	59	81	795	667	2,564
2014	1,017	61	87	825	667	2,657
2015	1,076	61	94	858	667	2,756
Total	7,201	404	594	5,828	5,336	19,362

(Total Global Plan implementation costs, 2008-2015 equal U.S.\$45.3 billion.)

DOTS & ACSM: costs were attributed to HIV according to the projected proportion of TB patients who are HIV-positive in each of the Global Plan's seven geographic regions. These subtotals were summed to provide the global totals provided above. Approximately one-third of total DOTS and ACSM implementation costs are attributable to HIV.

MDR/XDR-TB: costs were attributed to HIV based on the cost of treating MDR- and XDR-TB in people living with HIV/AIDS in 27 identified "high priority" countries, which account for nearly all global prevalence of drug-resistant TB.

R&D: One third of R&D resource needs as identified by Treatment Action Group are attributable to HIV, consistent with implementation costs.

This report considers the efforts of four of the world's largest donors of HIV/AIDS efforts in the Africa region: the United States President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the UK Department for International Development (DFID), and the World Bank's Multi-Country HIV/AIDS Program for Africa (MAP). These donors have a vested interest to keep TB from undermining their efforts — and the funding they have invested — in the fight against HIV/AIDS. By screening for, treating, and stopping TB's spread among PLWHA, and by providing routine HIV/AIDS testing, counseling, and treatment to patients in TB settings, they face an enormous opportunity to reduce the burdens of both diseases. Most importantly, they have an obligation to see that PLWHA are not provided with the hope and the means of living with HIV only to die of TB.