

U.S. Policy Options for Strengthening Coordination between Global HIV/AIDS and TB Programs

A Report of the CSIS Task Force on HIV/AIDS

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U.S. Policy Options for Strengthening Coordination between Global HIV/AIDS and TB Programs

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Introduction

Over the past two decades, the relentless spread of human immunodeficiency virus (HIV) has amplified the global tuberculosis (TB) pandemic, which had previously been coming under increasing control. Currently, approximately one-third of those living with HIV around the world are coinfecting with TB.²

Worldwide, active TB³ is the most common infection heralding the onset of acquired immune deficiency syndrome (AIDS), as well as the leading cause of death among people living with AIDS. TB kills about 1.6 million people annually, including an estimated 195,000 people who are also infected by HIV.⁴ Of the 10

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² A. Harries, "Robert Koch and the Discovery of the Tubercle Bacillus: The Challenge of HIV and Tuberculosis 125 Years Later, plenary address at the 38th Union World Conference on Lung Health, November 10, 2007, http://www.kaisernetwork.org/health_cast/hcast_index.cfm?display=detail&hc=2397.

³ The overwhelming majority of the approximately 2 billion people in the world infected with TB have a *latent* (inactive) TB infection, which is not contagious. The risk of people with latent TB infections and normal immune systems developing *active* TB disease is about 10 percent over their lifetimes. However, the risk of developing active TB disease is much greater among people with suppressed immune systems, such as those infected with HIV. See, for example http://www.cdc.gov/tb/pubs/tbfactsheets/tbandHIV_eng.htm.

⁴ World Health Organization (WHO), *Global Tuberculosis Control: Surveillance, Planning, Financing* (Geneva: WHO, 2007), pp. 1–2, http://www.who.int/tb/publications/global_report/2007/pdf/full.pdf.

countries with the highest TB incidence rates among HIV-infected people,⁵ 7 are focus countries of the President's Emergency Plan for AIDS Relief (PEPFAR), illustrating the importance of coinfection as an issue in places where the United States is concentrating its HIV/AIDS programs and investments.

Although some efforts are underway to increase coordination between TB and HIV programs globally, there remains a persistent tendency to view TB and HIV as separate pandemics, leading to a single-disease approach for each one rather than an integrated strategy for both. With only a small number of exceptions, present global control efforts for TB and HIV/AIDS are largely managed in separate silos financially, programmatically, and administratively. This arrangement, if allowed to persist, will implicitly invite higher program costs and lower program efficiencies. Continuing a fragmented approach to global TB and HIV will lead to missed opportunities for program synergy and will undermine past and current investments in both these diseases. In short, the severity and increasing frequency of TB-HIV coinfection, together with the rising global caseload of drug-resistant TB, argues for this issue to become a more urgent U.S. policy priority and for new policy approaches to be pursued. Fortunately, congressional reauthorization of U.S. global HIV/AIDS programs in 2008 provides a good opportunity for the United States to exercise leadership in supporting the development of a comprehensive strategy for addressing TB-HIV coinfection.

Why Does TB-HIV Coinfection Require More U.S. Government Attention?

The organisms that cause TB and HIV have a synergistic biological relationship. On one side, HIV weakens the body's immune system, making activation of latent TB infection far more likely. Among the estimated 2 billion people with *latent* TB infection, those who are coinfecting with HIV are 20 to 50 times more likely to develop active TB than are their HIV-negative counterparts. In the absence of HIV infection, only a small proportion of people with latent TB go on to develop active TB within their lifetime. In fact, while HIV-negative individuals with latent TB face only about a 10 percent risk of developing active TB over the course of their entire lifetime, HIV-infected individuals face approximately that same risk of TB activation each year. Conversely, active TB infection causes immune system activation in coinfecting individuals, leading to higher HIV replication rates and higher viral loads, thereby accelerating progression to AIDS.⁶ It is therefore not surprising that untreated active TB in HIV-infected people is almost certainly fatal. The World Health Organization (WHO) estimates that, without proper treatment, 90 percent of persons living with HIV/AIDS will die within

⁵ "TB Incidence, All Forms in HIV+ Adults, 2005," [globalhealthfacts.org](http://www.globalhealthfacts.org), <http://www.globalhealthfacts.org/topic.jsp?i=93>.

⁶ Centers for Disease Control and Prevention, "Prevention and Treatment of Tuberculosis among Patients Infected with Human Immunodeficiency Virus: Principles of Therapy and Revised Recommendations," *Morbidity & Mortality Weekly Report*, 47, no. RR-20 (October 30, 1998):1-49, <http://www.cdc.gov/mmwr/PDF/rr/rr4720.pdf>.

months of being coinfecting with TB.⁷ In addition, as drug-resistant forms of TB continue to spread, risks of TB treatment failure among coinfecting people will rise still further.

While the advent of antiretroviral treatment for HIV/AIDS has helped somewhat to reduce the morbidity and mortality seen with TB-HIV coinfection, coinfection poses a special set of issues. In addition to its impact on severity of TB illness, coinfection with HIV is an obstacle to the correct diagnosis of active TB in two important ways. First, because extra-pulmonary TB (i.e., TB infection outside the lungs) is more common in coinfecting people, characteristic TB lung disease is more likely to be absent in such people. Second, because coinfecting people with TB lung disease excrete slightly fewer TB bacteria in their sputum (lower respiratory secretions) than do TB patients without HIV, sputum smear examination, the most widely used test to identify active pulmonary TB, is less accurate for TB diagnosis among HIV-infected people. More accurate—albeit more expensive—tests are coming on line but are not widely available in developing countries at the present time.

In HIV-infected adults and children with documented latent TB infection, use of a six- to nine-month regimen of once-daily isoniazid preventive therapy (IPT) has been shown to reduce their risk of developing active TB, as well as their risk of death.⁸ In fact, isoniazid appears to work synergistically with antiretroviral therapy to reduce the risk of active TB. However, because isoniazid as a single TB drug is not considered adequate treatment for active TB, candidates for IPT should have standard TB diagnostic tests to exclude active TB disease before starting IPT. Some of the same challenges in TB diagnosis described earlier can therefore also come into play with screening before IPT use.

Over the last several years, the global TB and HIV communities have increasingly acknowledged that closer, more intensive coordination is essential to address coinfection successfully. Several recent developments have helped increase the prominence, focus, and funding for global TB programs and highlighted TB and HIV as linked epidemics. In terms of international efforts, the decision in 2002 to include TB in the mandate of the Global Fund to Fight AIDS, Tuberculosis and Malaria was a major step forward, and subsequently the fund's budgetary decisions have significantly expanded TB programs and in turn TB-HIV coordinated activities. The 2004 publication of WHO's *Interim Policy on Collaborative TB/HIV Activities*⁹ has also helped bring increased attention to TB-HIV at the policy level. In September 2007, the Bill and Melinda Gates

⁷ WHO, "Frequently Asked Questions About TB and HIV," <http://www.who.int/tb/challenges/hiv/faq/en/index.html>.

⁸ R.E. Chaisson, "TB Prevention for HIV Patients: Priorities and Ongoing Research Efforts," Center for TB Research, Johns Hopkins University, http://www.stoptb.org/wg/tb_hiv/assets/documents/Chaisson_CROI2007.ppt.

⁹ Stop TB Department and Department of HIV/AIDS, WHO, *Interim Policy on Collaborative TB/HIV Activities* (Geneva: WHO, January 2004), http://whqlibdoc.who.int/hq/2004/WHO_HTM_TB_2004.330_eng.pdf. An abbreviated version of this policy was also published in WHO's *Weekly Epidemiologic Record* 79 (January 9, 2004): 6–11.

Foundation, in support of WHO's Global Plan to Stop TB, announced a series of new grants totaling \$280 million for the development of TB vaccines, diagnostic tests, and drugs. As well, the U.S. Congress is currently considering the Stop TB Now Act of 2007 (H.R.1567, S.968), which would authorize \$400 million for global TB activities in FY 2008. However, even with these measures, current program staff for both diseases working at local levels are being overwhelmed by rising TB and HIV/AIDS caseloads and are likely to be less able to successfully address the complex issues of coinfection in the short run.¹⁰ While effective integration of programs is likely to be administratively complex and to carry additional costs in the short term, it may well be necessary to move in that direction over the longer term if success against coinfection is to be achieved.

By allotting specific funding for the coordination of TB-HIV activities within its budget, by identifying priority actions for field implementation, and by collaborating with WHO to intensify demonstration projects, PEPFAR has been one of the leading international donors in responding to the need for increased management of TB-HIV coinfection.^{11,12} Between 2005 and 2007, PEPFAR support for TB-HIV-related activities grew from \$25.5 million to \$130.9 million.¹³ However, the total budget allocation for TB-HIV activities remains a relatively small portion of PEPFAR's budget, and greater attention and resources for collaborative TB-HIV programming could potentially reduce overall program costs and make global TB and HIV/AIDS efforts more efficient in the long-term.¹⁴

What Can U.S. Policymakers Do during the Global HIV/AIDS Reauthorization Process to Increase Effective Coordination between Global TB and HIV Programs?

Policy options:

1. *Articulate Clear Legislative Goals.* Congress could lay out clear new goals for future coordination of global TB and HIV activities, including benchmarks for evaluating progress. As well, Congress could also direct appropriate federal agencies to generate proposals for streamlining the integration of global TB and HIV programs in a cost-effective manner, including innovative staffing approaches. Although basic TB research clearly falls outside of PEPFAR's scope, research on new TB diagnostics, vaccines, and drugs could help

¹⁰ S.J. Tsiouris et al., "Tuberculosis and HIV—Needed: A New Paradigm for the Control and Management of Linked Epidemics," *Medscape General Medicine* 9, no. 3 (2007): 62.

¹¹ "Accelerating the Implementation of Collaborative HIV/TB Activities in Selected Sub-Saharan African Countries," summary of a March 6–7, 2007, meeting in Washington, D.C., among staff of the Office of the Global AIDS Coordinator (OGAC), WHO, and the Bill and Melinda Gates Foundation.

¹² M. Dybul and W.L. Coggin, personal communication.

¹³ "Tuberculosis and HIV/AIDS (Updated August 2007)," PEPFAR press release, <http://www.pepfar.gov/pepfar/press/81964.htm>.

¹⁴ Tiaji Salaam-Blyther, *Tuberculosis: International Efforts and Issues for Congress* (Washington, D.C.: Congressional Research Service, October 26, 2007).

address a current set of critical constraints relevant to PEPFAR's activities. Using the vehicle of the PEPFAR reauthorization process, members of Congress could engage in consultation and collaboration with those working on current TB legislation to address the limitations of current TB diagnostics and its relevance to HIV/AIDS prevention and care.

2. *Enhance Screening, Testing, and TB Prevention.* The Office of the Global AIDS Coordinator (OGAC), the government arm responsible for coordinating U.S.-led efforts to combat HIV/AIDS abroad, could issue new field guidance that lays out concrete steps to ensure TB screening of HIV-infected patients and HIV testing of TB patients in U.S.-supported HIV/AIDS and TB programs respectively, with appropriate care and referral of those found to be coinfecting. Such testing is now widely recommended and is the standard of care in the United States; similar cross-testing could be required in selected U.S. programs abroad. In addition, to help reduce the occurrence of active TB in HIV-infected people, OGAC could issue a guidance document on the use of IPT or other TB preventive therapy in U.S. government-supported HIV/AIDS programs.
3. *Give Priority to Coordinated Programs.* In upcoming funding announcements and decisions, OGAC and PEPFAR country teams could give priority to HIV/AIDS program proposals that directly address TB-HIV coinfection issues. Priorities could include cross-training of TB and HIV/AIDS program staff on the issues of "the other" disease and pilot programs that test models of integration for TB and HIV/AIDS control programs. Finally, current U.S. government-supported global TB programs could be assessed on a case-by-case basis to determine whether and how issues of TB-HIV coinfection might be more systematically addressed within each program or country.

Conclusion

The HIV/AIDS pandemic has forever changed the landscape of global public health, and the advent of multidrug-resistant and extensively drug-resistant TB has increased public awareness of the threat TB poses. It is increasingly clear that global HIV/AIDS and global TB must each be prevented and managed in the context of the other. A highly coordinated approach to these "dual epidemics" is required to avoid further reversals of past gains in TB control and further preventable loss of life in persons living with HIV/AIDS. In short, Congress should pursue legislative options that promote coordination, collaboration, and selective integration of TB and HIV programming in the reauthorization of PEPFAR.

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About the CSIS Task Force on HIV/AIDS

The CSIS Task Force on HIV/AIDS seeks to build bipartisan consensus on critical U.S. policy initiatives and to emphasize to senior U.S. policymakers, opinion leaders, and the corporate sector the centrality of U.S. leadership in strengthening country-level capacities to enhance prevention, care, and treatment of HIV/AIDS. J. Stephen Morrison, director of the CSIS Africa Program, manages the overall project, in cooperation with the CSIS Freeman Chair in China Studies, the CSIS Russia/Eurasia Program, and the CSIS South Asia Program.

The honorary cochairs of the task force are Senator Russell Feingold (D-Wis.) and Senator John E. Sununu (R-N.H.). Former senator William H. Frist remains an active partner of the task force. The CSIS Task Force on HIV/AIDS is funded principally by the Bill and Melinda Gates Foundation, with project support and input from the Henry J. Kaiser Family Foundation, the David and Lucile Packard Foundation, and Merck and Co. The task force outlines strategic choices that lie ahead for the United States in fighting the global HIV/AIDS pandemic and comprises a core network of experts drawn from Congress, the administration, public health groups, the corporate sector, activists, and others. This panel helps to shape the direction and scope of the task force and disseminate findings to a broader U.S. audience.

Now in its seventh year, the task force's principal focus is on two critical issues: first, raising the profile and improving the effectiveness of U.S. support to global prevention efforts and facilitating a bipartisan discussion of global HIV prevention policy; and second, examining how U.S. leadership can facilitate the sustainability of HIV/AIDS programs, both in terms of resource flows and in situating HIV/AIDS responses within a broader strategy to address gaps in gender equity, health infrastructure, human capacity, and international collaboration on global health. The task force continues to engage on the emerging dynamics of the epidemic in Russia, China, and India with recent delegation visits in mid-2007.

