



## Tuberculosis

### Background

The U.S. contribution to global tuberculosis control improves health both abroad and at home,<sup>22</sup> contributes to increased productivity in low-income countries,<sup>23</sup> serves an important public diplomacy function in strategic states,<sup>24</sup> and promotes national and global security.<sup>25</sup> U.S. funding for TB, however, continues to fall short of the U.S. fair share based on current and projected global resource needs.<sup>26</sup> To achieve its full potential and demonstrably impact the pandemic, the Global Health Initiative must elevate tuberculosis control to a level commensurate with the global burden of the disease.

Tuberculosis kills 1.67 million people per year, making it the world's leading infectious cause of death after HIV/AIDS. TB is also the leading killer of people with HIV in developing countries; WHO estimates that one in four people living with HIV developed TB disease in 2007.<sup>27</sup> Drug-resistant TB strains (DR-TB) continue to proliferate. Extensively drug-resistant TB (XDR-TB), first described in 2006, has been confirmed in over 50 countries, with mortality rates exceeding 95 percent in some areas.<sup>28</sup> The House Committee on Homeland Security placed XDR-TB among public health threats that fall “squarely on the homeland, national, and transnational security agendas.”<sup>29</sup> The diagnostic tools and drugs currently available are inadequate in the face of drug-resistant TB and TB-HIV co-infection.

Basic TB control, TB-HIV co-infection, and DR-TB treatment efforts are hamstrung by antiquated diagnostics and drugs and the absence of an effective vaccine. Due to inadequate tools and poor access to services, less than half of people with tuberculosis in Africa are ever diagnosed. Furthermore, only an estimated 2% of people with HIV are screened for TB, and laboratory capacity—particularly in sub-Saharan Africa—remains too weak to diagnose and track the spread of drug resistance.<sup>30</sup> In 2009, less than 6% of the more than 500,000 people with multidrug-resistant TB (MDR-TB) are expected to receive treatment.<sup>31</sup>

The Global Health Initiative provides an unprecedented opportunity to turn the tide. To do so, the Obama administration must work proactively with Congress to appropriate the full level of TB funding authorized by the 2008 Lantos-Hyde Act—\$4 billion over five years—as recommended by the Institute of Medicine.<sup>32</sup> Funding should support the direct provision of TB services, as well as help to build country capacity via technical assistance to governments and to Global Fund grant applicants and recipients. PEPFAR, already supporting some best practices in TB-HIV service integration, should bring these activities to scale, building lab capacity and ensuring access to the full continuum of TB and HIV services. Substantially increasing TB research and development support to the National Institutes of Health, U.S. Agency for International Development, and the Centers for Disease Control must be a priority and is crucial to developing modern medicines and diagnostic tools, without which TB will never be eliminated.

### Positive Synergies

Making TB control a global health priority would have positive implications for other development goals. According to a paper commissioned by the World

Bank, fully funding the Global Plan to Stop TB in sub-Saharan Africa would yield economic benefits that outweigh the costs by a factor of nine.<sup>33</sup> TB is also a leading cause of death for adult women,<sup>34</sup> and children are two to three times more likely to die if their mothers have TB.<sup>35</sup> TB control, along with other infectious disease efforts, can also help to strengthen the broader health system.<sup>36</sup>

## Targets

The U.S. should fulfill its legislative commitments to support, by 2013:

- Successful treatment of 4.5 million new tuberculosis patients under DOTS programs, primarily through direct support for services, commodities, health workers, training, and additional treatment through coordinated multilateral efforts;
- Diagnosis and treatment of 90,000 new multidrug resistant tuberculosis cases and additional treatment through coordinated multilateral efforts; and
- As a six, rather than five-year strategy, the GHI should reflect increases for 2014

## Costs

TB resource needs are laid out in Table 2 below. Costs include scaling up of basic TB control, provision of additional services required to tackle drug-resistant TB, and research and development of new diagnostics, drugs and a vaccine. Cost estimates for these activities are based on the Stop TB Partnership's *Global Plan to Stop TB 2006-2015*,<sup>37</sup> the WHO's *MDR-TB and XDR-TB Global Response Plan* and personal communication,<sup>38</sup> and *Treatment Action Group's Tuberculosis Research and Development: A Critical Analysis of Funding Trends, 2005-2007* update.<sup>39</sup> These figures do not include the full potential additional costs associated with strengthening laboratory networks in developing countries, particularly in sub-Saharan Africa and Eastern Europe, nor for instituting universal infection control measures in healthcare settings. As such, they represent conservative estimates of the total global resource need for TB.

	2009	2010	2011	2012	2013	2014	6-Year Total
Country Needs	4.6	4.9	5	5.1	5.3	5.4	<b>30.30</b>
R&D	2	2	2	2	2	2	<b>12.00</b>
M/XDR	1	1	1	1	1	1	<b>6.00</b>
<b>Totals</b>	<b>7.60</b>	<b>7.90</b>	<b>8.00</b>	<b>8.10</b>	<b>8.30</b>	<b>8.40</b>	<b>48.30</b>

In 2008, Congress authorized \$4 billion in bilateral spending for TB over five years. Table 3 provides a scenario in which the \$4 billion for global TB activities authorized by the Lantos-Hyde Act for fiscal year 2009 to 2013 could be fully appropriated, plus an additional year (FY14) captured by the six-year span of the GHI. Additional funding is also needed to accelerate research and development of new TB diagnostics, drugs, and a vaccine.

**Table 3: Proposed Global TB Funding, FY09-14**  
(US\$ Millions)

	2009	2010	2011	2012	2013	2014	6-Year Total
Proposed Global TB Funding	162	650 *	650	1,238	1,300	1,300	<b>5,300</b>

\*Appropriations request supported by the authors. The President requested \$173 million for bilateral TB in FY2010; as of the time of this writing, the House and Senate Appropriations Committees had approved \$252 million and \$201 million, respectively.

## Policy Priorities

### *Supporting the Global Fund to Fight AIDS, Tuberculosis and Malaria*

Congress authorized up to an additional \$2 billion annually for the Global Fund, the largest external funder for TB efforts worldwide. Fully appropriating this funding would bring the U.S. closer in line with its fair share of global TB control financing, based on current and projected resource needs. Supporting health programs in 140 countries and having treated 5.4 million people with TB disease as of January 2009,<sup>40</sup> the Global Fund is a proven multilateral partner whose work complements U.S. bilateral TB efforts. Furthermore, U.S. contributions to the Global Fund mobilize donor contributions from other partners, historically at a rate of about 2:1.

### *Integrating TB and HIV Efforts in Areas Experiencing Co-epidemics*

An integrated approach to TB and HIV/AIDS is critical to reversing the burden of either disease in areas where both are prevalent. Integrating services for TB and HIV/AIDS also strengthens the delivery of health services, ensuring a continuum of care for patients impacted by both diseases. TB-HIV integration in line with WHO guidance needs further scale up globally. PEPFAR has served as a chief platform for implementing these activities, with a TB-HIV budget that increased from virtually zero in 2003 to \$150 million in FY2009.<sup>41</sup> Scale up in activities has been largely targeted at providing HIV services in TB settings.<sup>42</sup> Provision of TB services in HIV settings has lagged, despite PEPFAR's comparative advantage as an HIV/AIDS initiative. In 2008, only 23% of PEPFAR's project components implemented in sub-Saharan Africa described plans to implement at least one TB-HIV activity.<sup>43</sup> In its second phase, PEPFAR must prioritize TB-HIV integration, bringing the full continuum of services to scale. This will require PEPFAR spending at be least \$300 million annually on TB-HIV related activities beginning in the next fiscal year. As the roll-out of ARVs scales up, providing robust support for infection control is critical to reducing the transmission of TB within healthcare settings, thereby protecting both healthworkers and patients—many of whom are immune-compromised. PEPFAR should also work with partner governments to strengthen lab capacity to improve TB diagnosis among people with HIV.

### *Supporting TB Control in Strategic States*

The U.S. provides billions of dollars in foreign aid to countries that are among the hardest hit by the global TB epidemic, but little of this money goes to TB control or to public health generally. Together, the top five Asian recipients of U.S. aid<sup>44</sup> account for 16% of the global burden of TB, or 1.5 million new cases of infectious TB disease each year.<sup>45</sup> These same five countries received approximately \$2.2 billion in aid in 2008.<sup>46</sup> A small portion of this total support, if invested in TB programs, could go a long way toward securing the health of millions. A heightened focus on TB could make a tangible contribution to both public health and diplomacy.

## Needed Policy Changes: Tuberculosis

A key set of policy changes are needed to ensure that U.S. global TB programs and the Global Health Initiative can be most effective:

### **Fulfill Commitments of the Lantos-Hyde Act**

- Develop a strategy to reach the U.S. target of providing 4.5 million successful DOTS treatments and 90,000 successful MDR-TB treatments; and
- Fully fund U.S. bilateral TB programs supported through PEPFAR, USAID, CDC, and multilateral programs such as the Global Fund to Fight AIDS, Tuberculosis and Malaria.

### **Address the TB-HIV Co-infection Epidemic**

- At the very least double PEPFAR's TB-HIV budget line to \$300 million annually;
- Ensure every person receiving HIV services in USG-supported health centers are routinely screened for TB;
- Fully incorporate the Three I's (intensified case finding, isoniazid preventive therapy, and infection control) into PEPFAR programming as recommended by WHO; and
- Direct PEPFAR to set aggregate five-year TB-HIV goals to guide annual target-setting for country teams and to create hard annual TB-HIV service targets.

### **Invest in Research & Development**

- Increase resources available to the NIH, USAID, and CDC for TB research and development by at least \$300 million annually, prioritizing development of new tools appropriate for resource-poor settings;
- Fast-track and fund clinical trials for drugs to treat MDR-TB and XDR-TB;
- Expand laboratory capacity and treatment in high burden regions; and
- Support increased operational research that identifies and disseminates best practices for TB and TB-HIV.