



## The Economic Recovery Plan Should Include TB Research and Program Funding

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Tuberculosis (TB) is the second leading global infectious disease killer, claiming 1.6 million lives each year. The global pandemic and spread of drug resistant TB present a persistent public health threat to the United States. Sporadic outbreaks/clusters occur, outstripping local capacity. There are increasingly critical needs for new tools for rapid and reliable diagnosis, short, safe, and effective treatments, and vaccines, yet the US spends only \$133 million per year on TB research.

TB is easily transmitted and cannot be stopped at the US border. In the US, 13,299 new cases were reported in 2007, and progress towards TB elimination has slowed. Foreign-born and ethnic minorities bear a disproportionate burden of U.S. TB cases. U.S.-born blacks make up almost half (45%) of all TB cases among U.S.-born persons.

Drug-resistant TB poses a particular challenge to domestic TB control owing to the high costs of treatment and intensive health care resources required. In the late 1980s and early 90s, New York City spent \$1 billion to reverse a TB epidemic that included 441 cases of multidrug-resistant TB (MDR-TB).

Treatment costs for MDR-TB now range from \$100,000 to \$300,000, which can cause a significant strain on state public health budgets. Inpatient care has been estimated for California XDR TB (Extensively Drug Resistant TB) patients from 1993-2006 at an average of approximately \$600,000 per patient.

**Stimulus Recommendation:** Provide at least \$530 million in new funds in TB control to support high-impact research and program activities at the federal and state level (detail below), in accordance with The Comprehensive TB Elimination Act (P.L. 110-392). A major expansion of CDC's overall budget is also warranted. Additional spending recommendations via other agencies are also listed below.

Most of this \$530 million for TB would be spent in the US on research and program activities that generate significant employment and business activity within the US. A recent study by Families USA found that in fiscal year 2007, US medical research created and supported more than 350,000 jobs that generated wages in excess of \$18 billion in the 50 states (In Your Own Backyard, 2008). The average wage associated with the jobs created was \$52,000.

<http://www.familiesusa.org/issues/global-health/publications/in-your-own-backyard.html>

A small amount of this package would be spent abroad but this research and program spending would also provide direct and indirect benefits to the US. As an example, a 2005 study found that U.S.-funded efforts to expand TB control in Mexico, Haiti, and the Dominican Republic could reduce tuberculosis-related morbidity and mortality among migrants to the United States, producing significant net cost savings for the United States.

<http://content.nejm.org/cgi/content/abstract/353/10/1008>

### Background:

#### Role of CDC Division of TB Elimination (DTBE)



The US Centers for Disease Control provides leadership, technical and financial assistance, and scientific support for TB control efforts, both nationally and internationally. CDC monitors TB at the national level and develops standards for monitoring TB at the state level. CDC also utilizes expert panels and internal technical expertise to develop TB guidelines to provide guidance on core components of TB control programs, TB control in healthcare settings, use of diagnostic tests, and recommended treatment regimens.

### **Strong State and Local TB Control Programs**

The best defense against the development of drug resistant tuberculosis is a strong network of state and local public health programs and laboratories. CDC provides about \$100 million annually in support to state, local and territorial health departments to prevent and control TB. Federal funding levels for TB control have been relatively stable, but many state and local governments have faced budget challenges in recent years. These result in cuts in staffing.

### **New Tools to Fight TB Urgently Needed**

A crucial part of the mission of CDC is to conduct programmatically relevant research to develop new tools for TB diagnosis, clinical management, and prevention of latent TB infection (LTBI) and TB disease. Historically, research efforts on TB drugs, diagnostics, and vaccines have been conducted at CDC because of the agency's unique expertise in the epidemiology of TB and its relationship to public health departments that are treating patients.

### **Details of Stimulus Spending to Fight TB:**

Stimulus spending to address TB should be in accordance with the Comprehensive TB Elimination Act, which was passed unanimously by both chambers of Congress and enacted by the President on October 13, 2008. P.L. 110-392 provides targeted support to federal, state, and local health authorities to detect, treat, and prevent drug-resistant TB and TB in foreign-born populations and U.S. minorities, and along the U.S.-Mexico border, and development by CDC of new tools for TB elimination.

In 2002, the National Coalition for the Elimination of TB (NCET, now STOP TB USA) published "the Federal Funding Gap" estimating that it would take \$528 million annually to implement activities to eliminate TB.

**New funds in TB control would be used to support high-impact research and program activities at the federal and state level in each of the following priority areas for a total of \$530 million (Note - this figure would be \$628 million in 2008 dollars, adjusted for inflation):**

1. Interrupt transmission of *Mycobacterium tuberculosis* (**\$150 million**). CDC supports State and local health departments, where public health staff conduct labor-intensive contact investigations to find, treat, and cure TB patients and their contacts. State and local health departments are also at the forefront in testing new disease prevention methods.

EXAMPLE: In the present economic climate, state and local public health departments are reporting severe cuts. In El Dorado County, California, the county's division of communicable diseases serving 175,000 people was forced to cut its Division Director,



- supervisory public health nurse, a community outreach worker who supervised treatment of TB patients, a licensed vocational worker, a half time physician's assistant, and two office assistants who performed TB diagnostic tests. These cuts wipe out the TB experts that served this county, but re-hiring them would be a boon to TB control and the local economy.
2. Reduce TB in foreign-born persons (**\$110 million**). 58% of TB cases in 2007 were among foreign-born persons.
  3. Reduce TB in U.S. racial/ethnic minority populations (**\$110 million**). U.S.-born blacks make up almost half (45%) of all TB cases among U.S.-born persons. To advance efforts in TB prevention in these populations CDC would support program-based research based on using results from an earlier study on social determinants associated with early diagnosis, prevention, and treatment of TB in the African American community. CDC would also support demonstration programs in state and local areas for improved contact investigations and increased public awareness for at-risk groups.
  4. Reduce global impact of multidrug- and extensively drug-resistant TB and develop new tools to fight TB (**\$110 million**). In 2008 the World Health Organization (WHO) reported finding XDR- TB in 45 countries. With this funding, CDC would fund further development of molecular methods for rapidly diagnosing drug resistance, operational research to field test new compounds and their optimal use in drug-resistant cases, and support regional laboratory and program capacity for reaching underserved areas. This work to mitigate the global impact would also help protect Americans from TB, and it would develop new tools in the fight against TB that could then be used for TB control in the US.
  5. Reduce HIV-associated TB (**\$50 million**). Around the globe, TB is the leading cause of death in HIV positive persons. TB bacilli are able to grow in patients with compromised immune systems, even among those fortunate enough to be on antiretroviral therapy. CDC would further evaluate preventive therapy for TB in HIV-infected persons, operational research for infection control precautions, and use of IGRAs in HIV-infected TB patients. This \$50 million would address domestic TB-HIV while also supporting U.S.-based efforts to support global activities including training for infection control, technical assistance, and laboratory support.

#### **Additional Spending via other Agencies:**

Addressing TB globally is crucial to global economic recovery. A World Bank study from 2007 found that the economic costs of TB-related deaths in sub-Saharan Africa could total \$519 billion between 2006 and 2015 if people do not receive appropriate treatment. However, by adopting the [Global Plan to Stop TB, 2006-2015](#), the 22 countries with the highest TB burdens could instead earn \$218 billion during the same time period, while spending between \$12.2 billion and \$22.2 billion on TB control.

- An emergency response to TB would also include approximately \$10 million to support better TB infection control in US-supported HIV/AIDS care settings. There is growing concern that patients receiving HIV/AIDS care through PEPFAR are becoming infected with TB because of poor infection control, and PEPFAR must do more to address this, including via low-cost changes to facilities and equipment.



- An emergency response should also include supplemental funds in FY 2009 for the Global Fund to Fight AIDS, TB and Malaria, so that momentum is not lost in the Fund's grant cycle. This funding would provide a crucial boost for TB control outside the US. By doing so, it would help prevent the further spread of drug resistant TB to the US by visitors to the US or by Americans returning from abroad.
- A response to TB must also include full funding in FY 2010 for the TB provisions of the Lantos-Hyde Act, at the level of \$650 million.