Tuberculosis

WHAT YOU SHOULD KNOW


TB patient in India Credit: AERAS

Tuberculosis (TB), an airborne disease, is the single biggest killer of all the infectious disease agents, killing 4,900 people each day, more than HIV. In 2015 there were 10.4 million new cases, and 11% were among people living with HIV.[1] TB is frequently economically devastating for individuals and families,[2] and health care personnel are disproportionately at risk. The existing TB vaccine has very limited efficacy.

In 2015 there were an estimated 580,000 new cases of drug-resistant TB, which kills about 250,000 people a year. However, less than one-quarter of people with drug-resistant TB are ever treated. The global response to drug-resistant TB must be scaled up using the latest cost-saving innovations.

Tuberculosis knows no borders. In the U.S., TB is found in every state, with nearly 10,000 cases a year, and 13 million people have a latent TB infection.[3] People with active TB can infect up to 10-15 other people over the course of a year. Six hundred and twenty cases of multidrug-resistant TB (MDR-TB) occurred in the U.S. from 2009 to 2014,[4] severely straining public health budgets, with treatment costs averaging $154,000 per person for MDR-TB and about $500,000 per person for extensively drug resistant TB (XDR-TB).[5] Because of migration, business and family ties, and tourism, the U.S. cannot ignore the global epidemic and at the same time protect the health of people in the U.S.

In 2015, relevant U.S. agencies, including the U.S. Agency for International Development (USAID), Centers for Disease Control and Prevention (CDC), and National Institute for Health (NIH), developed a National Action Plan for Combating Multidrug-Resistant TB (National Action Plan),[6] focusing on 10 priority countries and providing treatment to 560,000 persons with MDR-TB. The plan warned that "The Nation has a window of opportunity to ensure that accelerating progress towards a TB-free world is not imperiled by MDR-TB." However, President Obama proposed a large cut in the funding required to implement the plan.[7]

Bilateral assistance is critical because it supports countries in developing strong applications to The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund); facilitates grant implementation; and improves the management of drug-resistant TB. USAID resources are bringing down the cost of TB medications through the Global Drug Facility and are helping countries avoid costly and dangerous treatment interruption.[8] USAID's TB program, along with CDC and NIH, also supports research that must urgently be accelerated.[9]

RECOMMENDATIONS FOR CONGRESS

Increase funding for U.S. bilateral TB programs and provide sufficient funds to implement the National Action Plan. It has been 6 years since U.S. bilateral TB funding has seen a substantial increase, and only 7% of USAID's global health funding goes to TB.[10] Funding should be increased for USAID TB, as well as for TB at CDC's Center for Global Health, through a new line item. The U.S. pledge to the Global Fund, which has more than tripled MDR-TB funding over the last 6 years, should be sustained.

Take advantage of the latest cost-saving innovations and invest in research and development of new tools. New child-friendly TB medicines, advanced molecular diagnostics, and new TB antibiotics can dramatically accelerate progress on TB. Yet without a well-funded and focused effort to get these innovations to the field and invest in new TB research, the TB response will fail.

Include TB in the U.S. antimicrobial resistance (AMR) response. The U.S. has committed to an ambitious response to AMR, and despite causing almost one-third of AMR-related deaths, drug-resistant TB is not part of the U.S. AMR plan. The U.S. Biomedical Advanced Research and Development Authority (BARDA) is a key component of U.S. medical countermeasure production/R&D and should be used to help end the threat from drug-resistant TB.

WHY THIS INVESTMENT IS IMPORTANT

TB programs have one of the highest returns on investment of any health intervention – $56 for each dollar invested, according to an estimate by the Copenhagen Consensus Center.[11] U.S. funding is making an enormous difference: TB incidence in the 23 countries with bilateral USAID TB funding has fallen by 19% since 2000 and 3% from 2014 to 2015, which is more than double the average global rate reported by the World Health Organization (WHO) in 2016.

However, reductions in U.S. assistance for TB would cost lives, lose valuable momentum gained from years of U.S. investment, and place people in the U.S. at greater risk for TB.

Of particular concern is drug resistance. Treating MDR-TB involves 250 injections and 15,000 pills over a 2-year period, and side effects often include permanent hearing loss. The 5-year survival rate for XDR-TB is just 20%, worse than most forms of cancer.[12] However, over the next 5 years, innovations in treatment are expected to dramatically shorten treatment and improve outcomes, provided they reach patients in need. In 2015, President Obama issued a National Action Plan; however, he proposed a large cut in the funding required to implement the plan.

The global TB epidemic increases health costs in the U.S. A CDC analysis of MDR-TB and XDR-TB cases in the U.S. during 2005-2007 found that direct costs resulting from these cases totaled approximately $53 million and approximately $100 million in direct-plus-productivity-loss costs.[13] Given the nature of the disease and origin of cases, strengthening the U.S. southern border alone would do little to reduce this problem.[14]

Domestic funding in affected countries is important, yet even with the most optimistic scenario for increased domestic funding, and assuming continued Global Fund investments in TB, a large funding gap in Global Fund-eligible countries would remain: $7.4 billion over 5 years.

The rate of new TB cases has declined just 1.5% from 2014 to 2015, and it must be accelerated to 4-5% by 2020 to reach the first milestones of the World Health Assembly-approved "End TB Strategy".[15] Fortunately, much faster progress is now possible due to the important advances in diagnosis and treatment, as well as growing political will and community engagement. The U.S. now has a major opportunity to lead the world in ending this global health security threat.

Resources

The Next U.S. President Should Confront the TB Epidemic Head On http://bit.ly/2e4npg8
Window of Opportunity on Tuberculosis http://bit.ly/2fLfIOX
We Cannot Deny It Anymore. TB is the New Global Health Emergency http://bit.ly/2fimEiT
WHO report warns global actions and investments to end tuberculosis epidemic are falling far short http://bit.ly/2dMjKWw
USAID: Tuberculosis http://bit.ly/1KDGFsi
CDC Global Health http://bit.ly/1c9olae
The Global Fund http://bit.ly/2hLGusk

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Citations

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15. "WHO report Warns Global Actions and Investments to End Tuberculosis Epidemic Are Falling Far Short."