

The U.S. Government and Global Tuberculosis Efforts

Key Facts

- Since the World Health Organization declared tuberculosis (TB) to be a global health emergency in 1993, global efforts to address TB have become more prominent, and worldwide TB incidence and mortality rates have fallen. Still, in 2017, there were an estimated 10.0 million new cases of TB globally, including 920,000 new cases in people living with HIV.
- In response to the persistent challenges related to TB, including drug-resistant TB, the U.N. General Assembly held its first-ever high-level meeting on TB in 2018 to discuss these challenges and examine progress toward global goals, including ending the epidemic by 2030.
- U.S. government (U.S.) involvement in global TB efforts was relatively limited until the late 1990s. Since that time, its efforts to address TB have grown, and now the U.S. is one of the largest donors to global TB control.
- U.S. TB activities reach more than 50 countries (including at least 20 of the 30 high burden countries where most new cases are occurring), and focus on preventing, detecting, and treating TB, including drug-resistant TB, as well as research and development.
- U.S. funding for bilateral TB efforts through USAID was \$264 million in FY 2018, up from \$64 million in FY 2001. The Administration has proposed significantly reduced TB funding for FY 2019 (\$181 million). Additionally, the U.S. is the largest donor to the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund).

Global Situation

Tuberculosis, an infectious disease caused by bacteria, is a leading cause of death worldwide, despite being preventable and often curable. Approximately a quarter of the world's population has "latent" TB, meaning they have been infected by TB bacteria, but are not yet ill with the disease and cannot transmit it (see box below); about 10.0 million develop "active" TB each year, which can be spread to others. When a person with active TB coughs, sneezes, or spits, the bacteria spreads into the air where it may be inhaled by and infect others.¹ According to the World Health Organization (WHO), people with active TB can infect up to 10-15 other people through close contact over the course of a year.² TB is found all over the world, though the majority of TB cases are concentrated in developing countries.³

Tuberculosis (TB):⁴ A bacterial infection caused by *Mycobacterium tuberculosis*. Not all people who become infected with TB will develop symptoms. Those who do not become ill are referred to as having "latent TB" and cannot spread the infection to others, while

those who become ill with “active TB disease” have symptoms like coughing (sometime with sputum or blood), chest pains, weakness, weight loss, fever, and night sweats. The disease usually affects the lungs, but in serious cases, it can affect other parts of the body and, if not treated properly, can be fatal.

In the 1990s and early 2000s, concern about rising incidence in some areas, new outbreaks, TB/HIV co-infection, and the emergence of TB drug resistance prompted key global health actors and governments, including the U.S. government, to make preserving and advancing the progress of global efforts against TB a priority.⁵ In 1993, WHO declared TB to be a global health emergency.⁶ Since then, global efforts to address TB have become more prominent, and global TB incidence and mortality rates have fallen.⁷ More recently, the U.N. General Assembly held its first-ever high-level meeting on TB in 2018 and adopted a new Political Declaration that reaffirmed global TB commitments.⁸ Still, significant challenges remain, and efforts focus on achieving new global TB goals, including ending the epidemic.

Morbidity and Mortality

In 2017, there were 10.0 million new cases of people who developed active TB disease (see Table 1). Although active TB is treatable and curable in most cases,⁹ an estimated 1.6 million people died from TB in 2017, including an estimated 300,000 who were HIV-positive. Globally, between 2000 and 2017, TB incidence fell by approximately 2% per year, and TB mortality fell by 42% over the period.¹⁰ Still, detecting TB cases – and then linking diagnosed cases to treatment — remains a significant challenge.¹¹

WHO Region ¹³	# of High Burden Countries	Incidence*		Mortality* (excluding HIV-related)		
		Number (in thousands, %)	Rate (per 100,000 population)	Number (in thousands)	Rate (per 100,000 population)	
Global Total	30	10,000	100%	133	1,270	17
Africa	16	2,480	25%	237	413	39
Americas	1	282	2.8%	28	18	1.8
E. Mediterranean	1	771	7.7%	113	89	13
Europe	1	273	2.7%	30	24	2.6
South-East Asia	6	4,440	44%	226	638	32
Western Pacific	5	1,800	18%	94	92	4.9

NOTES: * Represents WHO’s “best estimate” for each indicator. Incidence includes HIV-related cases of TB. Global mortality does not include 300,000 deaths due to HIV-related TB.

Challenges

AFFECTED AREAS¹⁴

Nearly all cases and deaths (more than 95%) occur in low- and middle-income countries, particularly in South-East Asia, Africa, and the Western Pacific. Additionally, thirty countries that have been designated by WHO as having high numbers of TB cases, otherwise known as high burden countries (HBCs), collectively account for approximately 87% of new TB cases globally.

AFFECTED/VULNERABLE POPULATIONS

WHO reports that while people of all ages are at risk, TB mostly affects adults during “their most productive years,” posing significant challenges to the livelihoods of individuals as well as to developing economies.¹⁵ Additionally, people who suffer from other conditions that impair the immune system (e.g., HIV) are at a higher risk of developing active TB, as are people who use tobacco.¹⁶ People in resource-poor settings, especially those living in poverty or in crowded living conditions with poor ventilation (e.g., prisons or mines), are disproportionately affected.¹⁷

TB & HIV

TB and HIV are frequently referred to as co-epidemics (or dual epidemics) due to their high rate of co-infection. TB is a leading cause of death among people with HIV, especially in developing countries.¹⁸ In 2017, an estimated 920,000 of the 10.0 million new active TB cases affected people who were also HIV-positive, and of the 1.6 million people who died from TB, an estimated 300,000 were HIV-positive.¹⁹

DRUG-RESISTANT TB

Drug-resistant TB has emerged as a major challenge to global TB control efforts. Cases that fail to respond to standard first-line drugs are known as multidrug-resistant TB (MDR-TB), while those that fail to respond to both first- and second-line drugs are known as extensively drug-resistant TB (XDR-TB).²⁰ In 2017, an estimated 558,000 people developed resistance to rifampicin, the most effective first-line drug, and of these, 82% had MDR-TB.²¹ Among cases of MDR-TB in 2017, WHO estimates that 8.5% of these cases were XDR-TB.

MDR-TB has been reported in most countries, with 30 countries identified as having a high burden of MDR-TB specifically. XDR-TB has been reported in 127 countries and territories.²²

Interventions²³

The End TB Strategy, the internationally-recognized strategy for ending the TB epidemic, outlines interventions aimed at decreasing TB-related morbidity, death, and transmission. They include:

- early diagnosis of TB via sputum-smear microscopy,
- treatment (usually a six-month course of antibiotics for drug-sensitive TB) and patient support for all people with TB,
- scaled-up diagnosis and management of MDR- and XDR-TB,
- systematic screening for and management of TB among people living with HIV and others in high-risk groups,
- preventive treatment and vaccination²⁴ for high-risk groups, and
- research and development (R&D) of new tools (e.g., new TB diagnostics, drugs, and vaccines) and improved approaches.

Other interventions include the development of policies and systems that support TB activities, such as improved standardized data collection, quality assurance and rational use of drugs, and monitoring and evaluation of outcomes; sustained political and financial commitment to TB efforts; health systems strengthening; and increased health workforce capacity to respond to TB.

Global Goals

Since the 1993 declaration of TB as a global health emergency by WHO,²⁵ major global TB goals have most recently been set through:

SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Adopted in 2015, the Sustainable Development goals (SDGs) aim to end the TB epidemic by 2030 under SDG Goal 3, which is to “ensure healthy lives and promote well-being for all at all ages.”²⁶ The SDGs are the successor to the Millennium Development Goals (MDGs), which included a tuberculosis target under MDG 6: to halt and begin to reverse the incidence of TB by 2015.²⁷

END TB STRATEGY

Endorsed by governments at the 2014 World Health Assembly, the *End TB Strategy* set an overarching goal of ending the global TB epidemic as well as targets for achieving, by 2035, a 95% reduction in TB deaths and a 90% reduction in TB incidence (compared with 2015 levels).²⁸ It builds on the earlier 2006 international *Stop TB Strategy*,²⁹ in which WHO outlined the goal of eliminating TB as a public health problem by 2050.³⁰ *The Global Plan to End TB* outlines the steps and resources needed to achieve the *End TB Strategy*'s goals and is periodically updated by the Stop TB Partnership (an international network of public and private entities working to eliminate TB).³¹

U.S. Government Efforts

U.S. involvement in global TB efforts was relatively limited until the late 1990s. Since that time, its efforts to address TB have grown, and now the U.S. is one of the largest donors to global TB control.³²

History and Goals

In 1998, the U.S. Agency for International Development (USAID) began a global TB control program, and over the following decade, the U.S. assigned a heightened priority to and provided greater funding for bilateral and multilateral TB efforts.³³

The passage of the legislation that launched the President's Emergency Plan for AIDS Relief (PEPFAR) in 2003 placed a heightened priority on U.S. global TB efforts that continues to this day. The *U.S. Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act of 2003* (the legislation that created PEPFAR) included TB under its umbrella, authorizing five years of funding for bilateral TB efforts and the Global Fund to Fight AIDS, Tuberculosis and Malaria (an independent, international financing institution created in 2001 that provides grants to countries to address TB, HIV, and malaria). The *Lantos-Hyde U.S.*

Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008, which reauthorized PEPFAR, set targets for U.S. bilateral TB efforts and authorized another five years of funding.³⁴ See the KFF [fact sheet](#) on PEPFAR, the KFF [fact sheet](#) on the Global Fund, and the KFF [brief](#) on PEPFAR reauthorization.

More recently, in 2015, the U.S. released its five-year *U.S. Government TB Strategy 2015-2019*, which outlines current U.S. TB goals.³⁵ These goals include, by 2019, to contribute to:

- treatment of 13 million new sputum-smear positive TB cases,
- maintaining treatment success rates of 90% for individuals with drug-susceptible TB,
- diagnosing and initiating treatment of 360,000 new MDR cases of TB,
- providing antiretroviral therapy to 100% of the people diagnosed with HIV and active TB, and
- a 25% reduction in TB incidence relative to a 2015 baseline.

The U.S. has also placed a heightened emphasis on addressing antimicrobial resistance (i.e., drug resistance).³⁶ In 2015, the U.S. released its *National Action Plan for Combating Multidrug-Resistant Tuberculosis*, which identifies interventions and articulates a strategy to respond to the domestic and global challenges of MDR-TB.³⁷ Most recently, at the U.N. High-Level Meeting on TB in 2018, the National Institutes of Health (NIH) released the *Strategic Plan for Tuberculosis Research*, which aims to accelerate its TB research including MDR-TB research.³⁸

Organization

The U.S. Agency for International Development (USAID) serves as the lead implementing agency for U.S. global TB efforts, with other agencies also carrying out TB activities. Collectively, these efforts reach more than 50 countries, including at least 20 of the 30 high burden countries (HBCs).³⁹ All U.S. global TB efforts are coordinated under the international working group of the Federal Tuberculosis Task Force (a coalition of federal agencies involved in U.S. global and domestic TB efforts).⁴⁰

USAID TB PROGRAM

USAID's bilateral TB program aims to support specific country needs⁴¹ in 22 priority countries where it currently carries out TB efforts, which are mainly in sub-Saharan Africa, South Asia, and Southeast Asia, and to focus on key interventions, including:

- accelerated detection and treatment of TB for all patients,
- scaled up prevention and treatment of MDR-TB,
- expanded coverage of interventions for TB-HIV co-infection (in coordination with U.S. HIV efforts under PEPFAR),
- improvements in the TB service delivery platforms and overall health system, and

- support for accelerated research and innovation.

The agency reports that in USAID-supported countries, TB incidence and TB-related mortality have decreased by 20% and over 30%, respectively, since 2000.⁴²

OTHER U.S. TB EFFORTS⁴³

The U.S. also supports TB activities through several other agencies, including:

- **the Centers for Disease Control and Prevention (CDC)**, which provides technical support on epidemiology and surveillance, laboratory strengthening, and clinical and program operations, and also supports clinical and operational research;
- **NIH**, which, as the leading funder of TB research and development (R&D),⁴⁴ supports basic, applied, and clinical R&D of new drugs, vaccines, and diagnostics;
- **the State Department's Office of the Global AIDS Coordinator (OGAC)**, which leads U.S. efforts to address TB-HIV co-infection; and
- **the Department of Defense (DoD)**, whose overseas laboratories help to monitor the quality of TB diagnostic services and conduct operational research.

MULTILATERAL EFFORTS

The U.S. partners with international institutions and supports global TB funding mechanisms. Key partners include WHO and the Stop TB Partnership. Additionally, the U.S. government is:

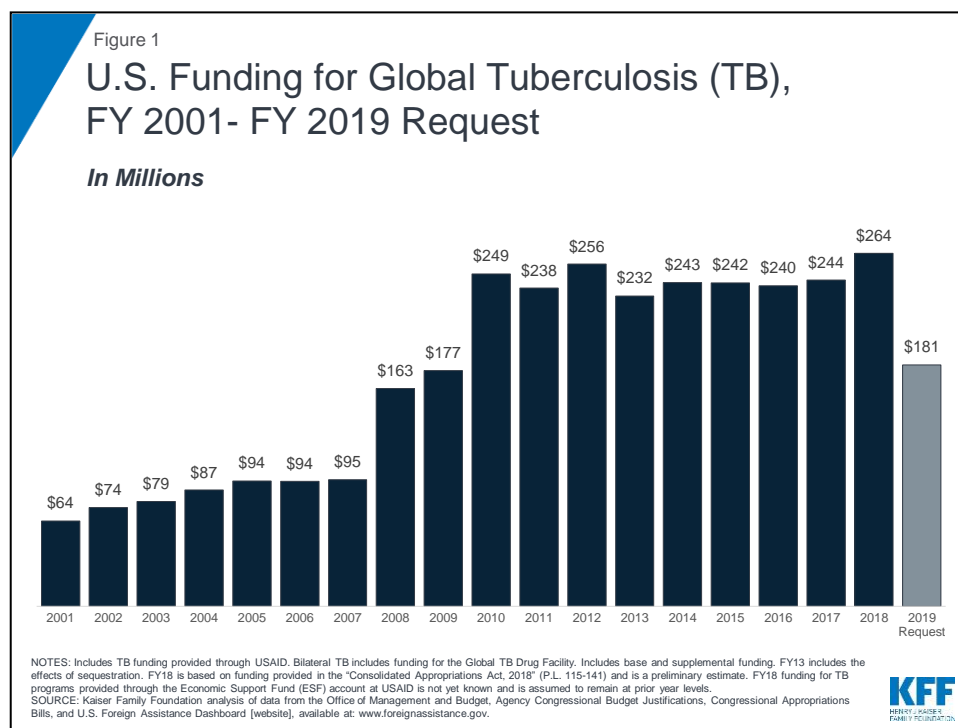
- the largest donor to the Global Fund, which has committed approximately \$6.8 billion in funding for TB programs worldwide, and
- one of the largest donors to the Global Drug Facility (a mechanism of the Stop TB Partnership that provides grants to countries for TB drugs).⁴⁵

Funding⁴⁶

Most U.S. funding for TB is provided through the Global Health Programs account at USAID with additional funding provided through the Economic Support Fund and Assistance for Europe, Eurasia and Central Asia accounts.^{47,48}

Total congressional appropriations to USAID for TB has grown over time, rising from \$64 million in FY 2001 to \$264 million in FY 2018 (Figure 1).⁴⁹ The current Administration has proposed significantly reduced TB funding for FY 2019 (\$181 million).

All TB funding is counted as part of PEPFAR, which also includes funding for U.S. global HIV/AIDS efforts and contributions to the Global Fund.



Key Issues for the U.S.

The U.S. is one of the largest donors to global TB control efforts and has highlighted TB as an important component of its global health investment. Looking ahead, there are several issues and challenges facing U.S. TB efforts, starting with questions about the extent to which the current Administration will continue to support ongoing efforts, particularly in light of its budget proposal to significantly reduce TB funding. Other issues and challenges include:

- implementing TB control programs in the context of weak health systems, limited laboratory capacity, and treatment barriers and complications;
- tackling the emergence of antimicrobial resistance, specifically drug-resistant TB;
- supporting a range of research and development efforts to advance new drugs and vaccines but also to lay the foundation for future elimination efforts;
- coordinating TB control efforts with other global health efforts, particularly HIV and maternal and child health (given the impact of TB during pregnancy and childhood);
- addressing the cost of treatment;
- continuing to expand access to TB services in the current restrained fiscal environment; and
- coordinating efforts with other donors, including the Global Fund (which will have its next replenishment in 2019).

Endnotes

¹ These bacteria can float in the air for several hours, depending on the environment. Persons who breathe in the air containing these TB bacteria can become infected. Since initial symptoms may be mild for months, people can sometimes delay seeking care, exposing more people to the bacteria.

² WHO, “Tuberculosis,” fact sheet, September 2018.

³ WHO, “Tuberculosis,” fact sheet, September 2018.

⁴ CDC, “Multidrug-Resistant Tuberculosis (MDR TB),” fact sheet, May 2016; WHO: “Tuberculosis,” fact sheet, September 2018; *Global TB Report 2018*, 2019.

⁵ WHO, “Global Tuberculosis Programme,” World Health Assembly Resolution 44.8, 1991; WHO, *WHO Report on the Global TB Epidemic 1998*, 1998; WHO, “Tuberculosis,” fact sheet, August 2002; TB Alert, “TB Timeline,” webpage, <http://www.tbalert.org/about-tb/tb-in-time/tb-timeline/>; WHO, *Global TB Report 2018*, 2018.

⁶ WHO, *TB: A Global Emergency*, WHO report on the TB epidemic, 1994.

⁷ WHO, *Global TB Report 2018*, 2018.

⁸ UN. *United to End Tuberculosis: An Urgent Global Response to a Global Epidemic*, September 2018.

⁹ Treatment in most cases is usually a six-month course of antibiotics.

¹⁰ WHO, *Global TB Report 2018*, 2018.

¹¹ WHO, *Global TB Report 2018*, 2018.

¹² WHO, *Global TB Report 2018*, 2018; KFF analysis of data therein.

¹³ For definition of WHO regions, see WHO, “About WHO: WHO Regional Offices,” webpage, <http://www.who.int/about/regions/en/>.

¹⁴ WHO, *Global TB Report 2018*, 2018. WHO, “Tuberculosis,” fact sheet, September 2018.

¹⁵ WHO, “Tuberculosis,” fact sheet, September 2018.

¹⁶ WHO, “Tuberculosis,” fact sheet, September 2018.

¹⁷ USAID, *Committed to Ending TB: Tuberculosis Report to Congress, FY 2016*, February 2018.

¹⁸ WHO, “Tuberculosis,” fact sheet, September 2018.

¹⁹ WHO. *Global Tuberculosis Report 2018*, 2018.

²⁰ Treatment for these forms of TB “is longer, and requires more expensive and more toxic drugs.” WHO, *Global Tuberculosis Report 2018*, 2018.

²¹ That is, people with MDR-TB have a combined resistance to rifampicin and isoniazid (another key first-line TB drug).

²² WHO: *Global Tuberculosis Report 2018*, 2018.

²³ WHO, “The End TB Strategy,” webpage, <http://www.who.int/tb/strategy/en/>; WHO, “The End TB Strategy: Global strategy and targets for tuberculosis prevention, care and control after 2015,” 2014, http://www.who.int/tb/strategy/End_TB_Strategy.pdf?ua=1; WHO, “Implementing the End TB Strategy: The Essentials,” 2015, http://www.who.int/tb/publications/2015/The_Essentials_to_End_TB/en/.

²⁴ No effective vaccine currently exists to prevent transmission of TB. The BCG (Bacillus Calmette-Guérin) vaccine is partially effective in preventing some serious TB complications in children, and is recommended by WHO as a component of routine childhood immunization in countries with a high TB burden. See: “Implementing the End TB Strategy: The Essentials,” 2015, http://www.who.int/tb/publications/2015/The_Essentials_to_End_TB/en/.

²⁵ WHO, “TB: A Global Emergency, WHO report on the TB epidemic,” 1994.

²⁶ UN, *Transforming our world: the 2030 Agenda for Sustainable Development*, 2015.

²⁷ UN, “Official List of MDG Indicators,” webpage, <http://unstats.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>.

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- ²⁸ This means the incidence rate will be an average of less than 10 TB cases per 100,000 population. WHO: “Post-2015 Global TB Strategy and targets,” fact sheet, Dec. 2014; “The End TB Strategy,” webpage, <http://www.who.int/tb/strategy/en/>; *The End TB Strategy: Global strategy and targets for tuberculosis prevention, care and control after 2015*, 2014, http://www.who.int/tb/strategy/End_TB_Strategy.pdf?ua=1.
- ²⁹ WHO, *The Stop TB Strategy*, March 2006.
- ³⁰ This means that “the global incidence of TB disease will be less than 1 case per million population per year.”
- ³¹ Stop TB Partnership: *The Global Plan to Stop TB 2006–2015*, Jan. 2006; *The Global Plan to Stop TB 2011–2015*, 2010; “The Global Plan to End TB 2016–2020,” webpage, www.stoptb.org/global/plan/plan2/.
- ³² KFF, [Mapping the Donor Landscape in Global Health: Tuberculosis](#), 2013.
- ³³ USAID: USAID, *Expanded Response to TB*, Sept. 2004 and updated Jan. 2009; USAID, *Fast Facts: Tuberculosis*, Oct. 2010.
- ³⁴ U.S. Congress, Public Law 108-25, May 27, 2003; U.S. Congress, Public Law 110-293, July 30, 2008.
- ³⁵ U.S. Government (USG), *USG Global TB Strategy 2015–2019*, 2015. This succeeds the prior five-year *Lantos-Hyde USG TB Strategy*, March 2010.
- ³⁶ In 2014, the White House announced the National Strategy for Combating Antibiotic-Resistant Bacteria (CARB) and issued an executive order directing the U.S. government to “work domestically and internationally to reduce the emergence and spread of antibiotic-resistant bacteria.” USAID, “Antimicrobial Resistance and the Threat of Multidrug-Resistant TB,” webpage, <https://www.usaid.gov/what-we-do/global-health/tuberculosis/antimicrobial-resistance-and-threat-multidrug-resistant-tb>; White House, Executive Order – Combating Antibiotic-Resistant Bacteria, 2014. See also: USG, *National Strategy for Combating Antibiotic-Resistant Bacteria*, 2014, https://www.cdc.gov/drugresistance/pdf/carb_national_strategy.pdf; White House, “Fact sheet: Obama Administration Releases National Action Plan to Combat Antibiotic-Resistant Bacteria, 2015, <https://obamawhitehouse.archives.gov/the-press-office/2015/03/27/fact-sheet-obama-administration-releases-national-action-plan-combat-ant>.
- ³⁷ USG, *National Action Plan for Combating Multidrug-Resistant Tuberculosis*, December 2015.
- ³⁸ NIH/NIAID, *NIAID Strategic Plan for Tuberculosis Research*, September 2018.
- ³⁹ USAID and CDC’s TB efforts together reach more than 50 countries, including those reached through regional efforts as well as PEPFAR-supported TB/HIV efforts. USG, *USG Global TB Strategy 2015–2019*, 2015; USAID, *Committed to Ending TB: Tuberculosis Report to Congress, FY 2016*, February 2018; USAID, “Tuberculosis: Where We Work,” webpage, updated December 7, 2018, <https://www.usaid.gov/what-we-do/global-health/tuberculosis/where-we-work>; CDC, “Global HIV & Tuberculosis: Where We Work,” webpage, updated September 24, 2018, <https://www.cdc.gov/globalhiv/tb/where-we-work/index.html>.
- ⁴⁰ CDC, “Federal TB Task Force,” webpage, <http://www.cdc.gov/tb/about/taskforce.htm>.
- ⁴¹ As outlined in a partner country’s national TB strategic plan, per the current and prior USG global TB strategies.
- ⁴² USAID, *Committed to Ending TB: Tuberculosis Report to Congress, FY 2016*, February 2018.
- ⁴³ USAID, *Committed to Ending TB: Tuberculosis Report to Congress, FY 2016*, February 2018.
- ⁴⁴ Treatment Action Group, *2015 Report on Tuberculosis Research Funding Trends, 2005–2014*, 2015.
- ⁴⁵ Global Fund: “Grant Portfolio,” accessed September 2018, <http://www.theglobalfund.org/en/portfolio/>; Global Drug Facility, “The Global Drug Facility: Access and Opportunity,” brochure, 2009.
- ⁴⁶ KFF analysis of data from the Office of Management and Budget, Agency Congressional Budget Justifications, Congressional Appropriations Bills, and U.S. Foreign Assistance Dashboard website, ForeignAssistance.gov.
- ⁴⁷ Represents specified funding for international TB programs in the President’s budget request, ForeignAssistance.gov, and Congressional appropriations bills. Additional support for international TB programs is provided through bilateral HIV programs at the State Department to address TB/HIV co-infection, for technical support and research activities through the CDC, and for research activities at the NIH.
- ⁴⁸ The Assistance for Europe, Eurasia and Central Asia (AEECA) account was eliminated in FY13. Funding provided through this account was incorporated into other accounts (e.g. GHP and ESF).
- ⁴⁹ FY18 is based on funding provided in the “Consolidated Appropriations Act, 2018” (P.L. 115-141) and is a preliminary estimate. FY18 funding for TB programs provided through the Economic Support Fund (ESF) account at USAID is not yet known and is assumed to remain at prior year levels.