

The U.S. Government and Global Neglected Tropical Disease Efforts

Key Facts

- Neglected tropical diseases (NTDs) are a set of infectious diseases grouped together due to their often chronic, disfiguring, and stigmatizing impact; their close association with poverty; and their geographic overlap.
- While there are numerous NTDs in the world, the World Health Organization (WHO) has highlighted 20 that particularly impact poor, politically marginalized populations; cause significant morbidity and/or mortality; are neglected by research; and can be controlled using effective methods.¹
- In recent years, the U.S. government (U.S.) has affirmed its support for global NTD goals, including eradicating, eliminating, and controlling several NTDs.²
- Over the past ten years, the U.S. has become more involved in global NTDs, launching its first NTD program in 2006 at the U.S. Agency for International Development (USAID) with a focus on seven NTDs that are responsible for the overwhelming majority of the NTD burden but can be controlled and even eliminated with low-cost and effective interventions.
- Total U.S. funding for NTDs increased from \$15 million in FY 2006, which was the first year Congress appropriated funds for NTDs, to \$100 million in FY 2018. However, the current Administration has requested \$75 million in funding for NTDs for FY 2019, a significant decrease from present levels.

Global Situation

NTDs have garnered greater attention from the U.S. government and other global donors over the last decade, spurred on by growing recognition of their potential threat to the achievement of the Millennium Development Goals (MDGs) and their successor, the Sustainable Development Goals (SDGs).³ In addition, the development and expansion of an integrated NTD treatment approach capitalized on the availability of safe and effective treatments for the most prevalent NTDs.

Neglected Tropical Diseases (NTDs): A group of parasitic, bacterial, and viral infectious diseases that primarily affect the most impoverished and vulnerable populations in the world and, as such, have received scant attention until the past decade.⁴

NTDs are among the top 10 major communicable disease causes of ill health globally, behind lower respiratory infections, diarrheal diseases, HIV, tuberculosis, and malaria.⁵ NTDs are grouped together due to their often chronic, disfiguring, and stigmatizing impact; their close association with poverty; and their geographic overlap.

Impact

NTDs have low mortality but high morbidity rates.⁶ More than a billion people – one-sixth of the world’s population – are infected with one or more NTDs, and an additional two billion are at risk. Each year, about 185,000 people die as a result.⁷ Infection with an NTD may result in severe disability, disfigurement, blindness, and malnutrition, and individuals are often infected with multiple NTDs simultaneously. The health impact of NTDs negatively affects economic development, hampers educational achievement and cognitive development, and reduces agricultural productivity and food security.⁸

Endemic to almost 150 countries, NTDs span the globe.⁹ However, the majority of the NTD burden is concentrated in low- and middle-income countries in Africa, Asia, and Latin America.¹⁰ People living in rural areas as well as urban slums are among the most affected, since lack of access to clean water, health services, adequate housing, and good sanitation contribute to NTDs’ prevalence and impact. Women and children are most at risk of infection, since they are more exposed to NTDs and more often face barriers to accessing treatment, particularly those living in remote areas.¹¹

Major NTDs

While there are numerous NTDs in the world, the World Health Organization (WHO) has highlighted 20 that particularly impact poor, politically marginalized populations; cause significant morbidity and/or mortality; are neglected by research; and can be controlled using effective methods.¹²

Seven “tool-ready” NTDs, those that can be controlled and even eliminated due to the availability of low-cost and effective interventions, are responsible for the overwhelming majority of the NTD burden (see Table 1). This subset of NTDs is increasingly the focus of donor efforts, including USAID’s NTD Program.

Disease	# of People Affected Each Year	# of Affected Countries	Causes
Soil-Transmitted Helminths (STH):	1,500 million+	112	Infection with worms transmitted through ingestion of or direct exposure to soil that is contaminated by human feces in which STH eggs are present.
<i>Ascariasis (roundworm)</i>	819 million	--	<i>Infection typically due to ingesting contaminated soil, food, or water</i>
<i>Hookworm</i>	439 million	--	<i>Infection typically due to walking barefoot on contaminated soil or ingesting larvae</i>
<i>Trichuriasis (whipworm)</i>	465 million	--	<i>Infection typically due to ingesting contaminated soil or food</i>
Lymphatic filariasis (elephantiasis)	36 million	52	Infection with worms transmitted by mosquitoes
Onchocerciasis (river blindness)	21 million	34	Infection with worms transmitted by black flies that breed near fast-moving rivers and streams
Schistosomiasis (snail fever)	206 million [^]	78	Infection with worms transmitted through contaminated freshwater inhabited by snails carrying the parasite

Table 1: Seven NTDs Targeted by USAID’s NTD Program¹³

Trachoma	1.9 million*	37	Infection transmitted through direct or indirect contact with bacteria in an infected person’s eye or nasal discharge (on hands/clothes or on the feet of flies)
NOTES: -- indicates the information is not available; ^ indicates number requiring preventive chemotherapy; * indicates active trachoma, trichiasis, and irreversible blindness due to trachoma.			

Interventions

A number of strategies have been successful in controlling and, in some areas, even eliminating certain NTDs. Although many interventions are relatively inexpensive, challenges persist in delivering tools and services to the most at-risk populations.

Today, the recommended strategy is an integrated control approach targeting multiple NTDs simultaneously through mass drug administration (MDA), combined with community-level transmission control measures. This allows programs to reach more people and increase cost-efficiencies over tackling each disease separately.¹⁴ MDA often uses the “rapid-impact package,” which is a combination of four drugs used to prevent or treat the seven most prevalent NTDs for as little as \$0.10-\$0.50 per person per year.¹⁵ The low cost of the rapid-impact package is partially due to donations of drug treatments from pharmaceutical companies, which have risen by more than 35% since 2011.¹⁶ Additional measures such as promoting clean water, sanitation, and hygiene (WASH) and good veterinary public health also play critical roles in addressing the underlying causes of NTDs.¹⁷

Global Goals

As NTDs began to receive greater attention and global efforts have expanded over the past ten years, major global NTD goals have been set through:

2012 WHO ROADMAP FOR IMPLEMENTATION

The Roadmap outlined targets and strategies for global NTD control, elimination, and eradication efforts from 2012 through 2020. Among its goals was the eradication of dracunculiasis (Guinea worm disease) by 2015, which was not achieved but WHO reports the world is on the verge of eradicating the disease, with only 28 cases in 2018.¹⁸ Other goals are the eradication of yaws by 2020 and elimination of four NTDs – blinding trachoma, human African trypanosomiasis (sleeping sickness), leprosy, and lymphatic filariasis (LF) – by 2020.¹⁹

LONDON DECLARATION ON NEGLECTED TROPICAL DISEASES²⁰

The Declaration was endorsed by key public and private stakeholders in 2012 and laid out global NTD goals (affirming those in the *Roadmap*) and commitments. It aims to improve partner efforts to coordinate and collaborate across their respective efforts in order to help eradicate Guinea worm disease and, by 2020, to help to eliminate the four NTDs mentioned above (blinding trachoma, sleeping sickness, leprosy,

and LF) and to control schistosomiasis, soil-transmitted helminths, Chagas disease, visceral leishmaniasis, and onchocerciasis.²¹ In 2017, stakeholders attending the NTD Summit reaffirmed their London Declaration commitments through the Geneva Commitment.²²

SDG 3: END THE EPIDEMIC OF NTDs

Adopted in 2015 by all member-states of the United Nations, the Sustainable Development Goals (SDGs) included a target of ending the epidemic of NTDs by 2030 as part of SDG 3 (“ensure healthy lives and promote well-being for all at all ages”).²³ The SDGs are the successor to the Millennium Development Goals (MDGs), which did not include a specific NTD indicator.²⁴

U.S. Government Efforts

Over the past ten years, U.S. attention to and funding for NTDs have increased markedly. Historically, the U.S. government’s response to NTDs was relatively limited, focusing largely on research and surveillance conducted by the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Department of Defense (DoD). In 2006, Congress first appropriated funds to the U.S. Agency for International Development (USAID) for integrated NTD control, after which the agency launched its NTD Program. In 2008, the USG announced expanded NTD efforts, building on USAID’s NTD Program.²⁵ In 2012, the U.S. signed onto the *London Declaration*, and more recently, the U.S. adopted a longer term global health goal of protecting communities from infectious diseases and highlighted the important role of NTD efforts in achieving this goal.²⁶

Organization

USAID serves as the lead implementing agency for U.S. NTD efforts. Several other agencies, including NIH, CDC, DoD, and the U.S. Food and Drug Administration (FDA), are also involved in responding to NTDs worldwide. Collectively, U.S. activities reach more than 30 countries.²⁷

USAID²⁸

USAID’s NTD Program targets seven “tool-ready” NTDs (see Table 1). Having scaled up from five countries in 2006, it now spans 25 countries, mostly in sub-Saharan Africa and Southeast Asia, and has one regional program, which reaches an additional six countries in the Americas. Using interventions such as the rapid-impact package, the USG supports endemic countries in scaling up MDA and developing their capacity to manage NTD control programs. The program’s goals are to eliminate LF and blinding trachoma globally by 2020 and to increase integrated, sustainable delivery of preventive chemotherapy for all NTDs.

OTHER U.S. EFFORTS

Other agencies support research and development (R&D) activities related to and efforts focused on encouraging adoption of control tools for NTDs, including the seven targeted NTDs as well as others not yet considered “tool-ready” (Buruli ulcer, Chagas disease, dengue, human African trypanosomiasis,

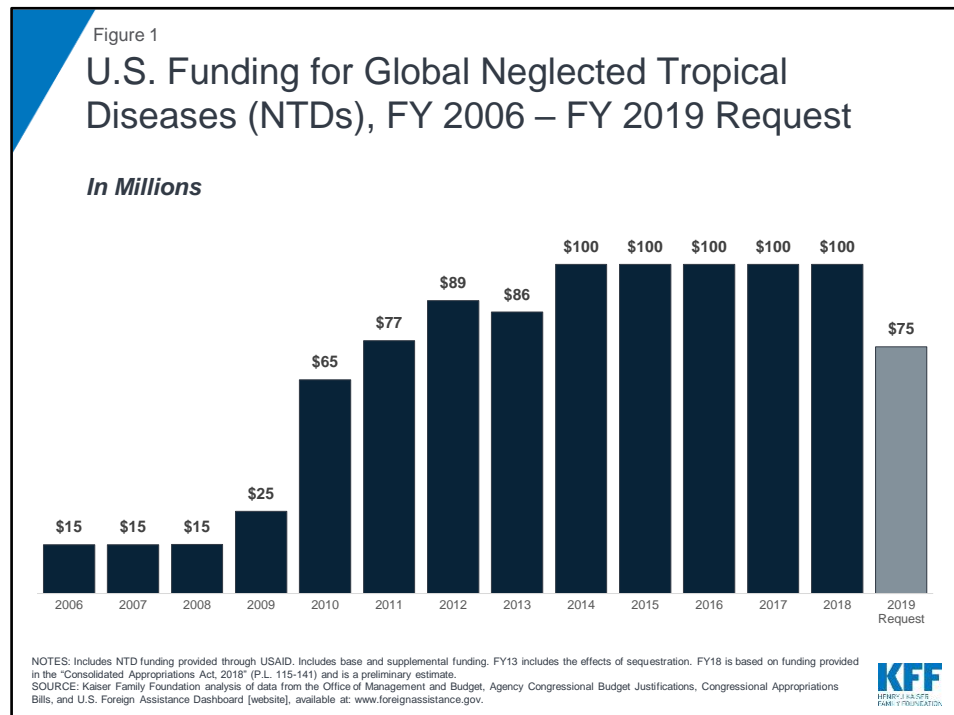
leishmaniasis).²⁹ NIH, CDC, and DoD support various NTD R&D efforts,³⁰ while the FDA administers the congressionally-authorized Tropical Disease Priority Review Program,³¹ which “provides for a voucher that is awarded at the time of approval of certain drugs that prevent or treat” an NTD.³² The voucher, which can subsequently “be redeemed for a priority review of an application for a drug for any indication submitted at a later time,”³³ is designed as an incentive for the private sector to invest in new NTD drug development.³⁴ A number of vouchers have already been authorized by the FDA.³⁵ Additionally, CDC provides technical assistance to countries and other partners, helps to develop guidelines for NTD control, and aids efforts to monitor and evaluate progress.³⁶

MULTILATERAL AND OTHER EFFORTS

U.S. NTD efforts are coordinated with a number of international partners (like WHO and private sector entities), regional strategies (like the *Regional Strategy on NTDs in the WHO African Region 2014-2020*), and funding mechanisms (like the END Fund).³⁷ For example, the pharmaceutical industry donates several NTD drugs to many of the countries that also receive USAID NTD support; USAID has estimated the value of these donations in U.S.-supported countries at approximately \$19 billion since 2006.³⁸

Funding³⁹

Total U.S. funding for NTDs increased from \$15 million in FY 2006, which was the first year Congress appropriated funds for NTDs, to \$100 million in FY 2018 (see Figure 1). The current Administration has requested \$75 million in funding for NTDs for FY 2019, a significant decrease from current levels; if appropriated at this amount, it would be the lowest NTD funding level since FY 2010. U.S. funding for NTDs is provided through the Global Health Programs account at USAID.⁴⁰



Key Issues for the U.S.

Over the past decade, U.S. global NTD efforts and funding have expanded, as have those of other entities. Today, U.S. NTD efforts are an important part of the U.S. global health agenda. Looking ahead,

there are several issues and challenges facing U.S. NTD 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 NTD funding, but also including:

- sustaining and augmenting successes, such as expanding the availability of low-cost and effective interventions to control and even eliminate some NTDs;
- realizing further cost efficiency savings;
- securing additional donated drugs;
- strengthening countries' capacity to conduct intensified case detection and management and to manage morbidity, disability, and disfigurement related to some NTDs;
- supporting improved monitoring, disease mapping, and evaluation of global progress;
- addressing outstanding research challenges, including identifying cost-effective interventions for NTDs not yet "tool-ready;"
- further integrating NTD efforts with other U.S. global health programs, such as HIV/AIDS, TB, and malaria programs; and
- improving coordination among the U.S. government and other donors and stakeholders.

Endnotes

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² *The London Declaration on Neglected Tropical Diseases*, Jan. 30, 2012.

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