

**Fiscal Year 2016 Testimony Submitted to the House Committee on Appropriations
Subcommittee on Labor, Health and Human Services, Education, and Related Agencies
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On behalf of the American Society of Tropical Medicine and Hygiene**

The American Society of Tropical Medicine and Hygiene (ASTMH)—the principal professional membership organization representing, educating, and supporting scientists, physicians, clinicians, researchers, epidemiologists, and other health professionals dedicated to the prevention and control of tropical diseases—appreciates the opportunity to submit testimony to the Senate Labor, Health and Human Services, Education, and Related Agencies (LHHS) Appropriations Subcommittee.

The challenges posed to global health by tropical diseases and the need for continued U.S. leadership and investment in research and development in this domain are perhaps best illustrated by the ongoing tragic Ebola outbreak in West Africa, the worst in history; to date over 25,000 people have been infected, with over 10,000 deaths and imported cases to the U.S. and Europe.¹ Although the most important barometer, the Ebola epidemic's toll cannot be measured in lives lost alone. Controlling the outbreak has necessitated billions of dollars of global investment (including \$5.4 billion in the FY 2015 Omnibus Appropriations Act). Furthermore, the economic and social toll has created worrisome national security issues in the already fragile West African sub-region.

Ultimately, the Ebola epidemic, along with the 2003 pandemic of SARS coronavirus and 2009 pandemic of influenza, vividly demonstrate the “interconnectivity” of our modern world. The U.S. cannot consider geographic distance from developing countries or “tropical diseases” as adequate protection against these infectious threats and their secondary economic, social, and political consequences. Rather a proactive strategy of robust U.S. investment in R&D is needed to ensure the knowledge and tools to confront the next infectious disease global health challenge.

The benefits gained from a strong U.S. investment in tropical diseases are humanitarian, diplomatic, and economic, and of direct relevance to U.S. health and security. With this in mind, we strongly advocate that the Subcommittee fully fund the NIH and CDC in the FY 2016 LHHS appropriations bill to ensure continued U.S. investment in global health and tropical medicine research and development, specifically:

National Institutes of Health:

- Research on infectious diseases transmitted by ticks, fleas, and mosquitoes that occur both within the borders of the U.S. and in tropical and subtropical regions abroad, including malaria and neglected tropical diseases (NTD) research and development efforts within the National Institute of Allergy and Infectious Diseases (NIAID);

¹ CDC. 2014 Ebola Outbreak in West Africa - Case Counts. Available at: <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html>

- Diarrheal disease research throughout the NIH; and
- Research capacity development in countries where populations are at heightened risk for malaria, NTDs, and diarrheal diseases through the Fogarty International Center (FIC).

The Centers for Disease Control and Prevention:

- The National Center for Emerging & Zoonotic Infectious Diseases, which protects the U.S. from new and emerging infections spread by vectors such as mosquitoes and ticks and other diseases that are normally maintained in animals but may infect humans, such as Ebola, SARS-coronavirus, chikungunya, and pandemic influenza viruses;
- The Center for Global Health, which includes CDC's work in malaria and NTDs; and
- The CDC's efforts to implement the Global Health Security Agenda.

Return on Investment of U.S.-Funded Research

CDC and NIH play essential roles in research and development for tropical medicine and global health. Both agencies are at the forefront of the science that leads to new tools to combat malaria, epidemic viruses, NTDs and other infectious diseases. In addition to creating lifesaving new drugs and diagnostics to aid some of the poorest, most at-risk people in the world, in addition to the U.S. military and civilian travelers, this research provides jobs for American researchers and a leadership opportunity for the U.S. in the fight against global disease. Sixty-four cents of every US dollar invested in global health R&D goes directly to U.S. researchers.²

Tropical Disease

Malaria and Parasitic Disease: First, I want to acknowledge the tremendous success we have seen as a result of U.S. funded malaria efforts. I want to thank the committee for its support. We have more to do and I can assure you, it is doable. Malaria remains a global emergency affecting mostly poor women and children, but also is a major threat to our military and other travelers to the tropics. It is an acute, and too often a fatal disease. Despite being treatable and preventable, malaria is one of the leading causes of death and disease worldwide. In 2014, 97 countries and territories had ongoing malaria transmission. According to the latest estimates, released in December 2014, there were about 198 million cases of malaria in 2012 and an estimated 584,000 deaths. Through collaborative efforts to fight malaria, malaria mortality rates have fallen by 47 percent globally since 2000. Still, approximately every minute, a child needlessly dies of malaria.³

Neglected Tropical Diseases: NTDs are a group of chronic parasitic diseases, which represent the most common infections of the world's poorest people. These treatable, preventable diseases reduce cognitive development, stunt growth, cause anemia in children and women of

² Global Health Technologies Coalition and Policy Cures. *Saving lives and creating impact: Why investing in global health research works.* Available at: <http://www.ghtcoalition.org/files/Savinglivesandcreatingimpact.pdf>

³ World Health Organization. *World Malaria Report 2014.* Available at: http://www.who.int/malaria/publications/world_malaria_report_2014/en/

child-bearing age, and severely limit the future earning potential of men, women, and children across the developing world resulting in further economic drain in already strained countries. These infections are considered a primary reason why the “bottom billion”—the 1.4 billion poorest people living below the poverty line—cannot escape poverty.

Diarrheal disease: The child death toll due to diarrheal illnesses exceeds that of AIDS, tuberculosis, and malaria combined. In poor countries, diarrheal disease is second only to pneumonia as the cause of death among children under five years old. Each year diarrhea needlessly kills around 760,000 children under five⁴ which, according to the most recent census estimates, is more than the population of Detroit, Michigan.⁵

The United States has a long history of leading the fight against tropical diseases that cause human suffering and pose financial burdens that negatively impact a country’s economic and political stability. Tropical diseases, many of them neglected for decades, impact U.S. citizens working or traveling overseas, as well as our military personnel. Additionally, some diseases such as dengue fever have been found in the U.S. Tropical diseases like West Nile virus and Chagas are no longer quarantined to the tropics and have taken root here. The U.S. is not immune. Viruses are but a plane ride away from any point in the world.

National Institutes of Health

National Institute of Allergy and Infectious Diseases: A long-term investment is critical to achieve the drugs, diagnostics, and research capacity needed to control malaria and NTDs. NIAID is the lead institute for malaria and NTD research. In the past year, NIAID reported significant progress in addressing malaria, including the recent development of low-cost diagnostic tests that can rapidly detect resistance of malaria to artemisinin, a first-line antimalarial drug.⁶ Resistance to artemisinin is a growing danger and one that we must be aggressively addressing. NIAID also helped lead accelerated trials of an Ebola vaccine.

ASTMH encourages the subcommittee to increase funding for NIH to expand the agency’s investment in malaria, NTDs, tick-borne infections, and diarrheal disease research and coordinate with other agencies to maximize resources and ensure development of basic discoveries into usable solutions and specifically invest in NIAID to support its role at the forefront of these efforts to developing the next generation of drugs, vaccines, surveillance tools and other interventions.

Fogarty International Center: Biomedical research has provided major advances in the treatment and prevention of malaria, NTDs, and other infectious diseases. These benefits,

⁴ World Health Organization. *Diarrhoeal disease*. Available at: <http://www.who.int/mediacentre/factsheets/fs330/en/>

⁵ U.S. Census Bureau. Annual Estimates of the Resident Population for Incorporated Places of 50,000 or More. Available at: <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

⁶ National Institutes of Health. National Institute of Allergy and Infectious Diseases Fiscal Year 2016 Congressional Budget Justification. Available at: <https://www.niaid.nih.gov/about/Documents/FY2016CJ.pdf>

however, are often slow to reach the people who need them most. FIC works to strengthen research capacity in countries where populations are particularly vulnerable to threats posed by malaria, NTDs, and other infectious diseases. This maximizes the impact of U.S. investments and is critical to fighting malaria and other tropical diseases. In addition, the diplomatic goodwill gained through these partnerships between the U.S. and other countries, some of whom view the U.S. with some skepticism, is invaluable in building a renewed trust.

ASTMH encourages the subcommittee to allocate sufficient resources to FIC to increase these efforts, particularly as they address malaria, NTDs, and diarrheal disease.

The Centers for Disease Control and Prevention

The Global Health Security Agenda: In partnership with other government agencies, other nations, international organizations, and public and private stakeholders, CDC announced a Global Health Security Agenda in 2014 to “accelerate progress toward a world safe and secure from infectious disease threats and to promote global health security as an international security priority.” The Agenda focuses on preventing and reducing the likelihood of outbreaks, detecting threats early to save lives, and responding rapidly. The CDC’s Center for Global Health and National Center for Emerging & Zoonotic Infectious Diseases will play an important role in these efforts and must be supported through robust funding to carry out their duties.

The Center for Global Health: Malaria and Parasitic Disease: Malaria has been eliminated as an endemic threat in the United States for over fifty years, and the CDC remains on the cutting edge of global efforts to reduce the toll of this deadly disease. CDC efforts on malaria and parasitic disease fall into three broad categories: prevention, treatment, and monitoring/evaluation.

ASTMH encourages the subcommittee to fund a comprehensive approach to effective and efficient malaria and parasitic disease elimination, including adequately funding the important contributions of CDC in malaria and parasitic disease at no less than \$24 million, a funding level that has not increased in many years.

Neglected Topical Diseases: CDC currently receives zero dollars directly for NTD work outside of parasitic diseases; however, this should be changed to allow for more comprehensive work to be done on NTDs at the agency. CDC has a long history of working on NTDs and has provided much of the science that underlies the global policies and programs in existence today.

ASTMH encourages the subcommittee to provide direct funding to CDC to continue its work on NTDs, including but not limited to parasitic diseases and urges the CDC to continue monitoring, evaluating, and providing technical assistance in these areas as an underpinning of efforts to control and eliminate these diseases.

The National Center for Emerging & Zoonotic Infectious Diseases and its Vector Borne Disease Program fund essential surveillance and monitoring activities that protect the U.S. from deadly infections before they reach our borders and address the problems of tick- and flea-transmitted infections such as Lyme disease and a dozen other infections, including Ebola, that can be life-threatening within the U.S. The world is becoming increasingly smaller and new pathogens are introduced quickly into new environments. We have previously seen this with SARS, avian influenza, and dengue fever in the United States.

Last year the CDC also issued warnings to clinicians across the U.S. to be on the lookout for patients showing symptoms of chikungunya, a debilitating mosquito-borne virus that is currently in the Caribbean and could soon break out across large parts of the Americas.

ASTMH encourages the subcommittee to ensure that CDC maintains these vital activities by continuing robust funding for National Center for Emerging and Infectious Zoonotic Diseases.

Conclusion

Thank you for your attention to these important U.S. and global health matters. Tropical medicine/global health research saves lives and is a smart economic strategy for the U.S. We hope you will provide the requested FY 2016 resources to those programs identified above. ASTMH appreciates the opportunity to share its expertise, and we thank you for your consideration of these requests that will help improve the lives of Americans and the global poor.