

March 2015 | Fact Sheet

The U.S. Government and Global Malaria

Overview

Malaria is one of the world's most common and serious tropical diseases, with half the world's population at risk of being infected with malaria.¹ Although preventable and treatable, malaria causes significant morbidity and mortality, with the greatest numbers of cases and deaths in resource-poor regions and among young children.² Strategies and efforts to address malaria have evolved over time.³ More recently, in the late 1990s, malaria began to receive renewed attention, particularly after the 1998 creation of the Roll Back Malaria Partnership (RBM).⁴ In 2000, all nations agreed to global malaria targets as part of Millennium Development Goal 6 (combat HIV/AIDS, malaria, and other diseases). Since then, expanded efforts by the U.S. government (USG), other donor governments, multilateral institutions, and affected countries have helped to increase access to malaria prevention and treatment and reduce cases and deaths,⁵ and there has been growing discussion of the possibility of finally eradicating the disease.⁶ Still, gaps remain, and many challenges continue to complicate malaria control efforts in hard-hit areas.

Malaria: an infectious disease caused by certain *Plasmodium* parasites, which are transmitted to humans by *Anopheles* mosquitoes. This mosquito thrives in warm, tropical, and subtropical climates. Infection with malaria parasites can cause common symptoms like fever, chills, and flu-like illness and lead to anemia, causing severe malaria disease and sometimes death. When the infected parasites clog small blood vessels in the brain, causing cerebral malaria, it can also be fatal.⁷

Involved in global malaria activities since the 1950s, the USG is now one of the largest donors to malaria efforts.⁸ Ten years ago, it launched the President's Malaria Initiative (PMI), which was initially a five-year effort to address malaria in 15 hard-hit African countries but has since been extended and expanded. PMI's creation followed the 2003 passage of the legislation that launched the President's Emergency Plan for AIDS Relief (PEPFAR, the expanded USG response to global AIDS) and placed a heightened priority on U.S. global malaria efforts that continues to this day.

Current Global Snapshot¹¹

Today global malaria activities are focused on sustaining and expanding efforts to control the disease. Substantial scale-up of malaria interventions helped reduce the malaria case incidence and death rates by 30% and 47% respectively between 2000 and 2013. Still, the World Health Organization (WHO) estimates that there were approximately 198 million cases of malaria and 584,000 deaths, mostly among children under the age of five, in 2013 (see Figure 1).

Figure 1: Malaria Cases and Deaths by Region, 2013⁹

WHO Region ¹⁰	# of Countries with Ongoing Transmission	Cases*		Deaths*	
		Number (in thousands, %)	Number (in thousands, %)	Number (in thousands, %)	Number (in thousands, %)
Global Total	97	198,000	100%	584	100%
Africa	45	163,000	82%	528	90%
Americas	21	700	<1%	<1	<1%
E. Mediterranean	8	9,000	5%	11	2%
Europe	3	2	<1%	0	0%
South-East Asia	10	24,000	12%	41	7%
Western Pacific	10	1,000	<1%	3	<1%

NOTES: * Represents WHO's "best estimate" for each indicator.

Affected Areas: More than three billion people in nearly 100 countries are at risk from malaria. Sub-Saharan Africa is the hardest hit region in the world, and parts of Asia and Latin America also face significant malaria epidemics. Many challenges continue to complicate malaria control efforts in countries with ongoing malaria transmission, including poverty, poor sanitation, weak health systems, limited disease surveillance capabilities, natural disasters, armed conflict, migration, climate change, and the presence of counterfeit and/or sub-standard antimalarial drugs.¹²

Drug & Insecticide Resistance: Multidrug-resistant malaria is now prevalent in Africa, South America, the Western Pacific, and South-East Asia, and while highly-effective artemisinin-based combination therapies (ACTs) have been introduced to treat drug-resistant strains, evidence suggests ACT resistance is occurring in parts of Asia.¹³ Resistance to insecticides has emerged as a problem in Africa, Latin America, South-East Asia, and the Western Pacific.¹⁴

Vulnerable/High-Risk Populations: While anyone living in or visiting an endemic country may be at risk, about 1.2 billion people are at high risk of malaria infection, and certain groups, particularly pregnant women¹⁵ and children, are more vulnerable. Making up 78% of all malaria deaths, children under five are especially at-risk of malaria infection, because they lack

developed immune systems to protect against the disease.¹⁶ Other high-risk groups include people living with HIV/AIDS, travelers, refugees, displaced persons, and migrant workers entering endemic areas.¹⁷

EFFECTIVE INTERVENTIONS

Malaria control efforts involve a combination of prevention and treatment strategies and tools, such as insecticide-treated bed nets (ITN); indoor residual spraying (IRS) with insecticides; diagnosis and treatment with antimalarial drugs, particularly ACTs;¹⁸ and intermittent preventive treatment in pregnancy (IPTp, a drug treatment for pregnant women that prevents complications from malaria for a woman and her unborn child). While a malaria vaccine is not yet available, clinical trials are underway, and early results show promise.¹⁹ Although access to prevention and treatment services has grown over time, gaps remain. Over the past decade, the number of ACT treatments procured by the public and private sectors has increased more than thirty-fold. Similarly, access to and use of ITNs has increased significantly but remains incomplete, and coverage of IPTp has been increasing but remains limited.²⁰

GLOBAL GOALS

Since the late 1990s, new initiatives and financing mechanisms, like the Roll Back Malaria Partnership (a global framework established in 1998 for coordinating malaria efforts among donor governments, major UN agencies, international organizations, and affected countries, among others) and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (an independent, international financing institution established in 2001 that provides grants to countries to address TB, HIV, and malaria),²¹ have helped increase attention to malaria and contributed to efforts to achieve global goals, which have been set through:

- **the adoption of the Millennium Development Goals (MDGs)** in 2000 by all member-states of the United Nations. The MDGs included a malaria target under MDG 6: to halt and begin to reverse the incidence of malaria by 2015.²² The world has not yet met this target. However, malaria incidence and mortality are falling worldwide, with progress varying across regions and age groups, and reductions in under-five deaths due to malaria has contributed to progress towards achieving the MDG 4 (improve child health) target of reducing the under-five mortality rate by two-thirds by 2015.²³
- **the Global Malaria Action Plan (GMAP) 2008 to 2015**, that was set out by RBM in 2008 and updated in 2011. The GMAP includes the goals of reducing malaria case incidence rates by 75% by 2015²⁴ and reducing malaria deaths to near zero by 2015.²⁵ Of the 106 countries that had ongoing malaria transmission in malaria in 2000, at least 55 countries (including nine in Africa) are on track to achieve at least a 75% reduction in the malaria case incidence rate from 2000 by 2015.²⁶

The U.S. Government Response

The USG's international response to malaria began in the 1950s through activities at the U.S. Centers for Disease Control and Prevention (CDC) and what is now the U.S. Agency for International Development (USAID); early efforts focused on technical assistance but also included some direct financial support for programs overseas. Since the early 2000s, the USG has assigned a heightened priority to and provided greater funding for bilateral and multilateral malaria efforts. In 2003, the *U.S. Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act of 2003* (the legislation that created PEPFAR) authorized five years of funding for bilateral malaria efforts and the Global Fund, and in 2008, the *Lantos-Hyde U.S. Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008* (which reauthorized PEPFAR) authorized another five years of funding and codified the position of the U.S. Global Malaria Coordinator.²⁷

More recently, in 2015, it released the *President's Malaria Initiative Strategy 2015-2020*, which outlines its goals as well as its approach to achieving them by 2020; goals include: reducing malaria mortality by one-third from 2015 levels in PMI-supported countries, achieving a greater than 80% reduction from PMI's original 2000 baseline levels; reducing malaria morbidity in PMI-supported countries by 40% from 2015 levels; and assisting at least five PMI-supported countries to meet the WHO criteria for national or sub-national preelimination. The strategy also states that these efforts contribute to longer term goals, such as elimination of malaria in a growing number of countries and global eradication by 2040-2050.²⁸

STRUCTURE AND APPROACH

USAID serves as the lead implementing agency for USG global malaria efforts. Other agencies involved in responding to malaria include the Centers for Disease Control and Prevention (CDC), the Department of Defense (DoD), and the National Institutes of Health (NIH). Most bilateral U.S. malaria efforts are consolidated under PMI, though some malaria activities fall outside the initiative. Collectively, these efforts reach more than 30 countries (see Figure 2). The U.S. Global Malaria Coordinator, who is appointed by the President and reports to the USAID Administrator, has direct authority over both PMI efforts and non-PMI USAID malaria programs.

The President's Malaria Initiative (PMI).²⁹ Launched in 2005, PMI is an interagency initiative led by USAID and implemented in partnership with CDC. It is overseen by the U.S. Global Malaria Coordinator and an Interagency Advisory Group

made up of representatives from USAID, CDC, DoD, the State Department, the National Security Council, and the Office of Management and Budget. PMI efforts focus on expanding access to and the use of four key malaria control interventions – ITNs, IRS, IPTp, and diagnosis of malaria and treatment with ACTs – and support a range of malaria control activities, including technical assistance to affected countries, monitoring and evaluation, supply chain management, and commodity procurement (since the start of PMI, USG support for commodities, such as ITNs, insecticides, and antimalarial drugs, like ACTs, has increased significantly³⁰). It also supports activities in the following areas: behavior change communication, health systems strengthening, monitoring and evaluation, and operational research.

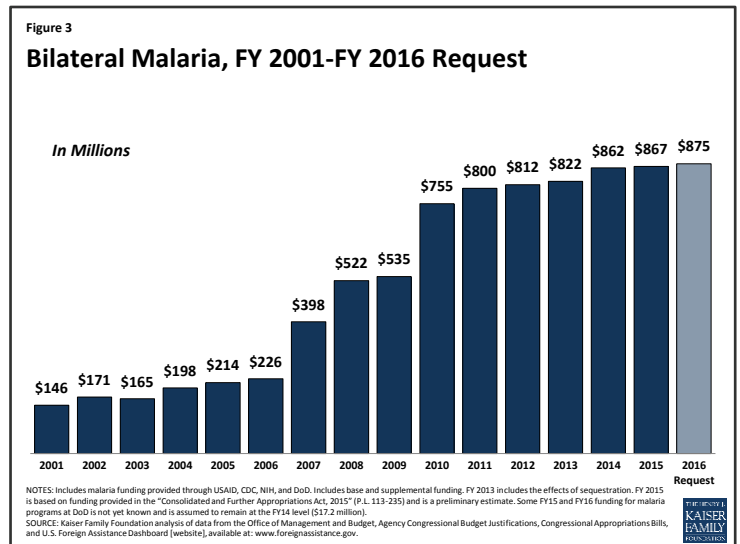
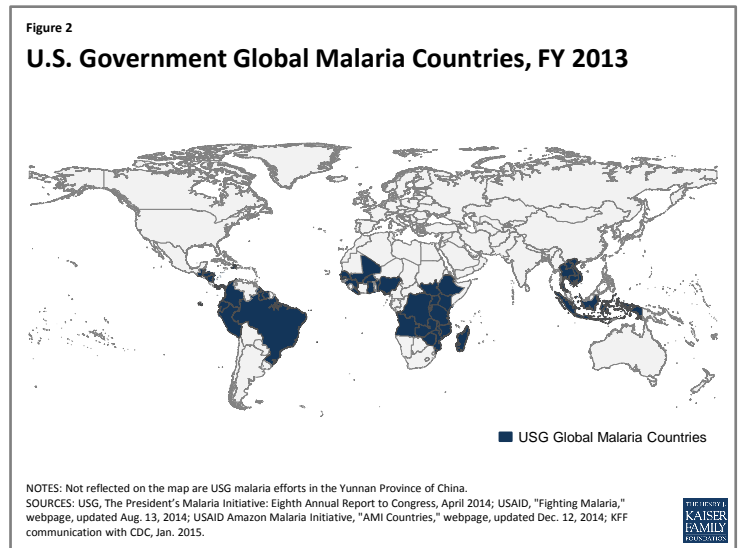
PMI spans 19 sub-Saharan African “focus countries” (gradually scaled up from three countries in FY 2006), as well as six countries in Southeast Asia under the PMI Greater Mekong Subregion regional initiative. Focus countries are selected based on the following criteria: high malaria burden; alignment of National Malaria Control Plan (NMCP) with WHO standards; country capacity to implement national control policies; willingness to partner with the USG in fighting malaria; and involvement of other international donors (e.g., Global Fund, World Bank). Both USAID and CDC station staff in each PMI focus country.

Other USG Malaria Efforts. The USG also supports malaria activities in other countries and regions, with several agencies providing smaller-scale support for the prevention and treatment of malaria (including technical assistance as well as support for monitoring and evaluation, operational research, and some commodities) in these areas, and supports malaria research and development (R&D) efforts. Among these agencies are USAID, CDC, NIH, and DoD. USAID supports activities in 11 Central and South American countries through its Amazon Malaria Initiative (AMI, which supports regional efforts to monitor antimalarial drug resistance, understand the changing nature of malaria in the region, and strengthen data-based decision-making in their malaria control programs) and in three additional African countries (Burkina Faso, Burundi, and South Sudan).³¹ CDC provides technical assistance to AMI countries as well as two additional countries (Haiti and Indonesia) with a focus on monitoring, evaluation, surveillance, and operational and implementation research, and it has been designated as the WHO Collaborating Center for Prevention and Control of Malaria.³² NIH, as the lead agency for USG malaria R&D efforts, supports an array of efforts, including its International Centers of Excellence for Malaria Research program, which established a global network of malaria research centers in 2010 to support research activities in malaria-endemic countries.³³ DoD also supports extensive R&D efforts, worldwide malaria disease surveillance, and technical assistance and capacity building efforts with local partners.³⁴

Multilateral Efforts. The USG partners with international institutions and supports global malaria funding mechanisms. Key partners include WHO, the Roll Back Malaria Partnership, and the World Bank. Additionally, the USG is the largest donor to the Global Fund, which has committed over \$8.7 billion in funding for malaria programs worldwide.³⁵

U.S. GOVERNMENT FUNDING³⁶

U.S. bilateral funding for malaria, which includes support for PMI as well as other malaria control efforts and research activities, has increased from \$146 million in FY 2001 to \$867 million in FY 2015 (see Figure 3). The President’s FY 2016 request for malaria totaled \$875 million; if approved by Congress, this would be an increase of \$8 million (1%) above the FY 2015 level.³⁷ Most USG funding for malaria is provided through the Global Health Programs (GHP) account at USAID with additional funding provided through NIH, CDC, and DoD. The majority of USG malaria funding is directed to PMI focus countries, with additional funding directed to other bilateral and regional malaria efforts as well as malaria research activities.



Looking Ahead

Over the past decade, USG global malaria control efforts and funding have expanded, as have those of others. As global efforts work toward achieving malaria elimination in a growing number of countries, key issues and challenges for PMI and other USG malaria efforts going forward include: sustaining and enhancing malaria control efforts in the context of weak health systems; tackling drug and insecticide resistance; addressing the availability of substandard and counterfeit antimalarial treatments; supporting research and development efforts to advance new drugs and insecticides as well as further an effective malaria vaccine; continuing to expand access to malaria commodities, among other tools and approaches, in the current restrained fiscal environment; and coordinating malaria efforts with other USG global health efforts, particularly maternal and child health activities, as well as those of other donors (including the Global Fund) in order to maximize the impact of available resources.³⁸

¹ WHO, *World Malaria Report 2014*, 2014.

² WHO, *World Malaria Report 2014*, 2014.

³ CDC, "The History of Malaria, an Ancient Disease," webpage, <http://www.cdc.gov/malaria/about/history/>; M. Tanner, D. de Savigny, "Malaria Eradication Back on the Table," *Bulletin of WHO*, Vol. 86, No. 2, 2008.

⁴ Launched by the World Health Organization, the United Nations Children's Fund, the United Nations Development Programme, and the World Bank as "an effort to provide a coordinated global response to the disease." RBM, "RBM Mandate," webpage, <http://www.rollbackmalaria.org/rbmmandate.html>.

⁵ WHO, *World Malaria Report 2014*, 2014.

⁶ M. Tanner, D. de Savigny, "Malaria Eradication Back on the Table," *Bulletin of WHO*, Vol. 86, No. 2, 2008; WHO, *World Malaria Report 2014*, 2014.

⁷ CDC Malaria website, <http://www.cdc.gov/malaria/about/index.html>.

⁸ KFF: *Global Financing for Malaria: Trends & Future Status*, 2014; *Mapping the Donor Landscape in Global Health: Malaria*, 2013.

⁹ WHO, *World Malaria Report 2014*, 2014; KFF analysis of data therein.

¹⁰ For definition of WHO regions, see WHO, "About WHO: WHO Regional Offices," webpage, <http://www.who.int/about/regions/en/>.

¹¹ WHO, *World Malaria Report 2014*, 2014.

¹² WHO, *World Malaria Report 2014*, 2014; CDC, Malaria, webpage, www.cdc.gov/malaria/; M. Tanner and D. de Savigny, "Malaria Eradication Back on the Table," *Bulletin of WHO*, Vol. 86, No. 2, 2008; RBM, *The Global Malaria Action Plan*, 2008; K. Senior, "Climate Change and Infectious Disease: A Dangerous Liaison?," *The Lancet*, Vol. 8, No. 2, 2008; CDC, "Counterfeit and Substandard Antimalarial Drugs," webpage, http://www.cdc.gov/malaria/malaria_worldwide/reduction/counterfeit.html.

¹³ WHO: *World Malaria Report 2014*, 2014; *Global Plan for Artemisinin Resistance Containment (GPARC)*, 2011; *Emergency Response to Artemisinin Resistance in the Greater Mekong Subregion: Regional Framework for Action 2013-2015*, April 2013.

¹⁴ WHO, *World Malaria Report 2014*, 2014.

¹⁵ WHO, *World Malaria Report 2014*, 2014; WHO, "Malaria in pregnant women," webpage,

http://www.who.int/malaria/areas/high_risk_groups/pregnancy/en/index.html.

¹⁶ WHO, *World Malaria Report 2014*, 2014.

¹⁷ WHO, "Malaria: High-risk groups," webpage, http://www.who.int/malaria/areas/high_risk_groups/en/.

¹⁸ ACT is recommended for areas where the malaria parasite is resistant to other antimalarial drugs or where more deadly malaria strains exist. WHO, *Guidelines for the Treatment of Malaria*, April 2011.

¹⁹ PATH Malaria Vaccine Initiative, "RTS,S malaria vaccine candidate," webpage, <http://www.malariavaccine.org/rd-rtss.php>.

²⁰ WHO, *World Malaria Report 2014*, 2014.

²¹ Roll Back Malaria website, <http://www.rollbackmalaria.org/>; Global Fund website, <http://theglobalfund.org/en/>.

²² Monitoring progress through improvements in incidence and death rates associated with malaria as well as the proportion of children under five years of age sleeping under ITNs and treated with appropriated antimalarial drugs, based on a 1990 baseline. UN, "Official List of MDG Indicators," webpage, <http://unstats.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>.

²³ WHO, *World Malaria Report 2014*, 2014.

²⁴ A goal originally adopted by the World Health Assembly in 2005.

²⁵ Based on a 2000 baseline and monitoring progress, in part, by reaching targets for improvements in malaria intervention coverage. It also included the goal of eliminating malaria in eight to ten new countries (since 2008) and in the WHO European Region by the end of 2015.

²⁶ Most of these 55 had lower numbers of cases in 2000, and progress has been slower in countries with greater numbers of cases. WHO, *World Malaria Report 2014*, 2014.

²⁷ U.S. Congress, *Public Law 108-25*, May 27, 2003; U.S. Congress, *Public Law 110-293*, July 30, 2008.

²⁸ USG, *President's Malaria Initiative Strategy 2015-2020*, 2015.

²⁹ PMI website, <http://www.pmi.gov/>; USG, "Fast Facts: The President's Malaria Initiative," fact sheet, April 2014; USG, *The President's Malaria Initiative: Eighth Annual Report to Congress*, April 2014; PMI, "Greater Mekong Subregion," fact sheet, 2014; CDC, "CDC and the President's Malaria Initiative," fact sheet, April 2014.

³⁰ PMI, "Malaria Operational Plans," webpage, <http://www.pmi.gov/resource-library/mops>.

³¹ USAID, "Malaria," webpage, <http://www.cdc.gov/malaria/>.

³² KFF communication with CDC, January 2015; CDC, "CDC and Malaria," fact sheet, April 2014; "CDC's Malaria Research," fact sheet, April 2014.

³³ NIAID: "NIAID Role in Malaria Research," webpage, <http://www.niaid.nih.gov/topics/Malaria/research/Pages/role.aspx>; "International Centers of Excellence for Malaria Research (ICEMR)," webpage, <http://www.niaid.nih.gov/LabsAndResources/resources/icemr/Pages/default.aspx>.

³⁴ KFF, *The Department of Defense and Global Health: Infectious Disease Efforts*, 2013.

³⁵ Global Fund: "Pledges and Contributions," as of Feb. 21, 2015, <http://www.theglobalfund.org/en/partners/governments/>; "Grant Portfolio," accessed Feb. 26, 2015, <http://portfolio.theglobalfund.org/en/Home/Index>.

³⁶ KFF analysis of data from the Office of Management and Budget, Agency Congressional Budget Justifications, Congressional Appropriations Bills, and the U.S. Foreign Assistance Dashboard website, www.foreignassistance.gov.

³⁷ Some FY 2015 and FY 2016 funding for malaria programs at DoD is not yet known and is assumed to remain at FY 2014 levels - \$17.2 million.

³⁸ According to the WHO *World Malaria Report 2014*, global malaria funding was \$2.7 billion in 2013, "almost three times the amount spent in 2005."