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# *A Decade of Progress*

## The President's Malaria Initiative

Tenth Annual Report to Congress | April 2016

**Executive Summary**

## Foreword

The President's Malaria Initiative's (PMI's) Tenth Annual Report to Congress marks a decade of U.S. Government leadership in the fight against malaria. PMI is widely recognized as a highly successful global health and foreign assistance program. With PMI support, hundreds of millions of people have benefited from protective measures and have been diagnosed and treated for malaria. PMI has reached into the poorest of communities in sub-Saharan Africa, where malaria flourishes, arming women, children, and families with tools to protect themselves from malaria and providing them with fast-acting medicines to cure malaria if they do become infected. The efforts of PMI have paid off. Working with host-country governments, donor governments, multilateral agencies, non-governmental organizations, and academic and research partners, 6 million deaths have been averted. In a number of PMI focus countries, we witnessed reductions in both death and illness from malaria. Those countries are now setting their sights on eliminating malaria transmission from all or part of their nations, an idea that was inconceivable 10 years ago when PMI was launched.

I am deeply grateful for the leadership of two U.S. Presidents. President George W. Bush created the Initiative in 2005, when the disease was almost certainly a death sentence for most poor children in Africa. President Barack Obama not only embraced the effort, but also significantly expanded our reach. And, bipartisan leadership from the House and Senate has sustained our work. Thanks to the generosity of the American people, lives are being saved every day from a disease that is preventable and treatable.

While we are making great progress in lifting the barriers of access to life-saving preventive and curative tools, much more needs to be done to serve the hardest to reach populations, particularly ethnic minorities, migrant workers, marginalized populations, and the poorest of the poor. Malaria control remains one of the best investments in global health today, and it remains a critical component of the U.S. Government's commitment to ending preventable child and maternal deaths and ending extreme poverty. Ending malaria will help build a healthier and more secure world.

As PMI celebrates the remarkable achievements over the past decade, we remain committed to maintaining the gains made and developing new tools to address threats such as drug and insecticide resistance. The U.S. Government shares the long-term vision of affected countries and global partners of *A World without Malaria*. Working together with affected countries and our partners, we strive to end malaria for good.



R. Timothy Ziemer  
Rear Admiral, United States Navy (Retired)  
U.S. Global Malaria Coordinator

# Executive Summary



## A DECADE OF GLOBAL PROGRESS

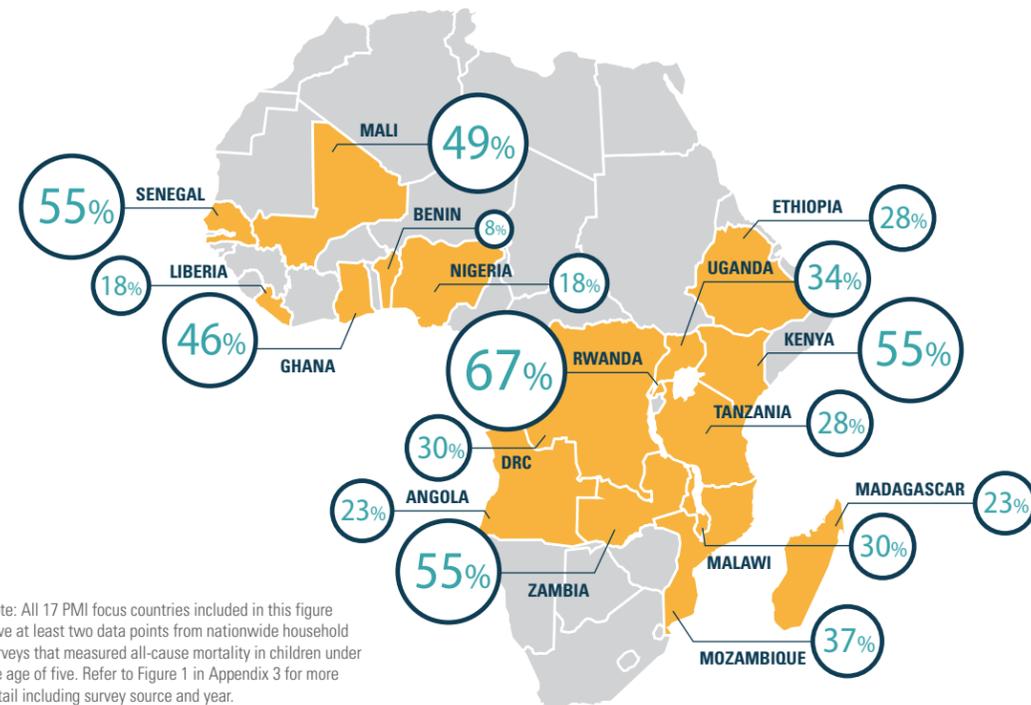
THE malaria fight is one of the most inspiring global health stories of our time. Investments in malaria prevention and control have been among the best investments in global health and development, resulting in a dramatic decrease in malaria deaths and illness. Working together, hundreds of millions of people have been reached with effective preventive tools and diagnosis and treatment. Even in the poorest of settings where malaria flourishes, we are arming women, children, and families with cost-effective tools to protect themselves from malaria and with fast-acting medicines to cure malaria if they do become infected.

The year 2015 marks a decade of renewed U.S. Government leadership and commitment in the global malaria fight. The past decade witnessed a key turning point in the long battle against malaria, and we have reached several historic milestones. Global progress on malaria control has been unequivocal – the World Health Organization estimates that more than 6.2 million malaria deaths were averted worldwide between 2000 and 2015.<sup>1</sup> Most of these estimated lives saved were among children under the age of five living in sub-Saharan Africa – the most vulnerable group at risk for malaria. During this time period, new malaria cases fell by 37 percent, and malaria mortality declined by an estimated 48 percent worldwide. Even greater reductions in malaria mortality were recorded in sub-Saharan Africa, where deaths among children under the age of five declined by 71 percent. Based on these results, the World Health Organization and UNICEF reported that the Millennium Development Malaria Goal of halting and reversing malaria incidence by 2015 was achieved.

These momentous gains in loosening malaria's grip are the collective result of significant and well-coordinated investments by national governments and donors, support from technical agencies and national institutions, and the hard work and dedication of health workers, non-governmental organizations, and affected communities. These investments have translated into a formidable scale-up of proven, cost-effective, and life-saving malaria control interventions, namely insecticide-treated mosquito nets (ITNs), indoor residual spraying (IRS), intermittent preventive treatment for

<sup>1</sup> World Malaria Report, 2015. World Health Organization.

## Reductions in All-Cause Mortality Rates of Children Under Five Years of Age in PMI Focus Countries



pregnant women (IPTp), diagnostic tests, and highly effective antimalarial drugs.

The U.S. Government's leadership and its financial and technical contributions through the President's Malaria Initiative (PMI) have been central to the remarkable achievements of the past decade. The story of U.S. leadership in the fight against malaria is one of immense success and progress. President George W. Bush launched PMI and pledged U.S. support for the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund). President Barack Obama significantly expanded the Initiative, and bi-partisan leadership from the House and Senate sustains our work. During this time, PMI has garnered recognition from diverse stakeholders as a highly effective program that successfully pairs global leadership on malaria prevention and control with solid country-level partnership and support.

Investment in the malaria fight is one of the best buys in global health. The push to end malaria is saving millions of lives, increasing attendance at school, improving worker productivity, and boosting local economies. Ending malaria will help build a healthier and more secure world. We can be the generation that ends malaria – one of the oldest and deadliest diseases on the planet.

### SAVING CHILDREN'S LIVES

Decreases in malaria cases and deaths have been major contributors to the reductions in all-cause child mortality that have been recorded in nationwide household surveys across PMI focus countries. Of the 13 PMI focus countries in Africa for which there are at least 2 measurements from serial national household surveys, 10 showed reductions in the proportion of young children infected with malaria parasites. Furthermore, to date, 17 of the 19 PMI focus countries in Africa have data from paired nationwide

surveys that were conducted since PMI activities began. In all 17 countries, these surveys show significant declines in all-cause mortality rates among children less than five years of age. These reductions range from 8 percent to 67 percent. Of note, four countries (**Kenya, Rwanda, Senegal, and Zambia**) have achieved a greater than 50 percent mortality reduction since PMI began in those countries (see map). PMI is carefully estimating the contribution of malaria control efforts to declines in mortality in PMI focus countries through in-depth impact evaluations conducted in collaboration with Roll Back Malaria (RBM) partners. While these declines cannot be solely attributed to malaria control, the large-scale rollout of malaria prevention and treatment measures across sub-Saharan Africa during the past decade have clearly been a major factor in these unprecedented improvements in child survival. For example, a 2012 evaluation of the impact of malaria control in Tanzania concluded that all-cause under-five child mortality fell by 45 percent between 1999 and 2010, and this dramatic reduction in mortality was at least in part due to reductions in malaria mortality that resulted from the nationwide scale-up of malaria prevention and control interventions.<sup>2</sup>

### ACHIEVING AND SUSTAINING SCALE OF PROVEN INTERVENTIONS

There has been a tremendous scale-up of malaria prevention and treatment measures across PMI focus countries since PMI was announced in June 2005. This achievement is the result of the U.S. Government's unwavering commitment together with the efforts of governments in malaria-affected countries, the Global Fund, the World Bank, the United Kingdom Department for International Development, the World Health Organization, UNICEF, and many other partners.

PMI's direct contributions to this global effort have been substantive. As a result of PMI's support, millions of people have benefited from protective measures against malaria, and millions more have been diagnosed and treated for malaria. To date, PMI has procured more than 197 million long-lasting ITNs, 229 million rapid diagnostic tests (RDTs), 376 million artemisinin-based combination therapies (ACTs), and 58 million sulfadoxine-pyrimethamine (SP) treatments in addition to training tens of thousands of people on case management, preventive treatment for pregnant women, and IRS operations (see Appendix 2 in the full report: [www.pmi.gov](http://www.pmi.gov)).

Close collaboration and synergies with other donors engaged in malaria control efforts have also been a hallmark of PMI from the outset of the Initiative. For example, PMI

## The President's Malaria Initiative Strategy for 2015–2020

PMI's Strategy for 2015–2020 takes into account the progress over the past decade and the new challenges that have arisen, setting forth a vision, goal, objectives, and strategic approach for PMI through 2020, while reaffirming the longer-term goal of a world without malaria. Malaria prevention and control remains a major U.S. foreign assistance objective, and this strategy fully aligns with the U.S. Government's vision of ending preventable child and maternal deaths and ending extreme poverty.

The U.S. Government shares the long-term vision of affected countries and global partners of a world without malaria. This vision will require sustained, long-term efforts to drive down malaria transmission and reduce malaria deaths and illnesses, leading to country-by-country elimination and eventual eradication by 2040–2050. The U.S. Government's goal under the PMI Strategy 2015–2020 is to work with PMI-supported countries and partners to further reduce malaria deaths and substantially decrease malaria morbidity, toward the long-term goal of elimination. Building upon the progress to date in PMI-supported countries, PMI will work with national malaria control programs (NMCPs) and other partners to accomplish the following objectives by 2020:

1. Reduce malaria mortality by one-third from 2015 levels in PMI-supported countries, achieving a greater than 80 percent reduction from PMI's original 2000 baseline levels.
2. Reduce malaria morbidity in PMI-supported countries by 40 percent from 2015 levels.
3. Assist at least five PMI-supported countries to meet the WHO criteria for national or sub-national pre-elimination.

To achieve these objectives, PMI will take a strategic approach that emphasizes the following five areas:

1. Achieving and sustaining scale of proven interventions
2. Adapting to changing epidemiology and incorporating new tools
3. Improving countries' capacity to collect and use information
4. Mitigating risk against the current malaria control gains
5. Building capacity and health systems

These areas of focus are informed by PMI's experiences to date, which include building on the successes that countries have achieved with the support of PMI and other partners, incorporating the lessons learned from implementation thus far and addressing directly the ongoing and new challenges that could prevent further progress toward malaria control and elimination.

<sup>2</sup> Roll Back Malaria Progress & Impact Series, Focus on Mainland Tanzania, 2012.

## IN FY 2015, PMI



Procured **+42M** long-lasting insecticide-treated nets



Sprayed **+4M** houses with insecticides, protecting **+16M** people



Procured **+21M** preventive treatments for pregnant women and trained **+31,000** health workers in their use



Procured **+57M** antimalarial treatments and **+54M** rapid diagnostic tests

has provided financial and technical assistance for the distribution of more than 80 million long-lasting ITNs and 34 million ACTs that were procured by other donors.

PMI's contributions, together with those of host governments and other partners, have been instrumental in improving coverage of malaria control interventions. In the 19 focus countries where at least 2 comparable nationwide household surveys have been conducted since PMI activities were launched:

- Household ownership of at least one ITN increased from a median of 25 percent to 69 percent.
- Usage of an ITN the night before the survey increased from a median of 18 percent to 54 percent among children under five years of age.
- Usage of an ITN the night before the survey increased from a median of 17 percent to 48 percent among pregnant women.

In all 17 focus countries where IPTp is national policy:

- The proportion of pregnant women who received 2 or more doses of IPTp for the prevention of malaria increased from a median of 14 percent to 38 percent.

While enormous progress in ITN ownership and use has been recorded in PMI focus countries, these improvements have not been uniform. Some countries are nearing or exceeding intervention targets while others still are scaling up. In particular, median coverage of pregnant women with at least two doses of IPTp in PMI focus countries has increased more slowly. To further bolster the number of pregnant women receiving SP, PMI continues to support countries to implement WHO's recommendation to provide SP at every scheduled antenatal care visit after the first trimester.

In addition to supporting the rollout of ITNs and IPTp, PMI has been a global leader in supporting countries to implement IRS activities. With PMI's contributions, the number of people protected with IRS has increased from 2 million in 3 countries to more than 16 million across 13 PMI focus countries in FY 2015.

Since PMI's launch, the Initiative has recognized that effective case management is an essential cornerstone of malaria prevention and control. Throughout PMI focus countries, RDTs and ACTs are now widely available, and health workers have been trained in their use. Over the last decade, PMI

has supported the scale-up of diagnostic testing for malaria at the health facility and community levels to ensure that all patients with malaria are properly identified and receive a quality-assured and recommended antimalarial. The proportion of suspected malaria cases confirmed with a laboratory test and treated with a recommended antimalarial has increased in nearly every PMI focus country. Most PMI focus countries are also scaling up quality assurance systems for case management, with six countries having achieved national scale in FY 2015. PMI has also supported the rollout of integrated community case management (iCCM) for malaria, pneumonia, and diarrhea. To date, all 19 PMI focus countries receive PMI support for iCCM efforts and, as a result of the combined efforts of PMI, ministries of health, partners, and other donors, iCCM programs in 5 countries have reached national or near-national scale.

### ADAPTING TO CHANGING EPIDEMIOLOGY AND INCORPORATING NEW TOOLS

The scale-up of malaria control interventions has resulted in reduction not only in malaria mortality, but also malaria morbidity in a number of PMI focus countries. A subset of these countries is now developing plans to eliminate malaria nationally or sub-nationally. In other countries, high-level coverage with multiple interventions has resulted in wide geographic variability in malaria burden. This changing epidemiology has prompted some countries to adopt a targeted approach to malaria control with strategies that are rolled out at the sub-national level or are applied to specific population groups. This allows for programmatic efficiencies ensuring that resources are appropriately aligned to address the need for malaria control across and within PMI focus countries. These approaches include focal IRS, enhanced case finding and investigation, and outbreak response. For example, during FY 2015:

- PMI supported focal spraying in **Ethiopia, Rwanda, Senegal, Zambia, and Zimbabwe**, which covered a total of nearly 1.6 million houses and protected more than 5 million people who were at the highest risk of malaria in a given area.
- In **Cambodia, Rwanda, Senegal, and Zanzibar**, PMI supported pilot efforts for reactive case detection, which involves investigating contacts of malaria cases in order to identify possible additional infections.
- PMI provided support to **Uganda** during a malaria outbreak in the north of the country. As a result of these efforts, excess mortality was prevented, and malaria death rates were much lower than anticipated.

Malaria control is now at a key juncture. To achieve the long-term global vision of *A World without Malaria*, new tools and new approaches to improve the coverage and use of those tools will be needed. For example, PMI supports the NMCPs in **Mali** and **Senegal** to implement seasonal malaria chemoprevention (SMC), a recommended approach to prevent malaria among young children in areas with highly seasonal malaria transmission. In both countries, PMI provides funding for key aspects of the campaigns including training and supervision of health workers, procurement of SMC drugs, and monitoring and evaluation of program implementation and impact. PMI support for SMC during FY 2015 helped protect nearly 900,000 children from malaria.

PMI complements U.S. Government agencies' investments in upstream malaria research and new tools development including investments in malaria vaccines, new antimalarial drugs, and new vector control tools by supporting operational research. PMI's operational research activities are focused on helping to improve program implementation and policy development, test the feasibility of new tools and implementation approaches, and identify and overcome bottlenecks and document best practices toward achieving full-scale implementation.

### IMPROVING COUNTRY CAPACITY TO COLLECT AND USE INFORMATION

The success of malaria control efforts in PMI focus countries can in part be attributed to the high priority placed on collecting and using data to inform policies and program planning and implementation and to monitor the coverage and impact of those interventions. PMI investments in data collection have included support for national household surveys, supply chain logistics related surveys, entomological and net monitoring, and health management information systems (HMIS). For example,

- Since PMI's launch in 2005, 80 nationally representative household surveys have been conducted with PMI's support across the 19 focus countries in Africa. These surveys have provided essential information to monitor changes in coverage of key interventions – such as insecticide-treated mosquito net ownership and use – and to measure impact, particularly all-cause child mortality and malaria parasitemia prevalence.
- The capacity of countries to monitor entomological indicators has substantially improved with PMI's support. All 19 PMI focus countries in Africa currently conduct regular entomological monitoring. PMI supports a total of approximately 130 entomological monitoring sites, which



“Billions of our fellow human beings are at risk of dying from diseases that we know how to prevent. Many children are just one mosquito bite away from death. And, that is a moral outrage. It is a profound injustice. It is literally a matter of life and death, and now, the world must act. We cannot leave people behind.”

– President Barack Obama  
United Nations General Assembly, September 27, 2015

measure mosquito density and behavior, as well as 190 insecticide resistance monitoring sites.

- PMI is working closely with partner countries to support deployment of computerized platforms for health information systems such as the District Health Information System-2 (DHIS-2) to make data collection, analysis, and reporting more efficient and improve its quality. Eleven of the 19 PMI focus countries in Africa have fully scaled implementation of the DHIS-2 for their HMIS.
- To monitor the availability of malaria commodities (ACTs, RDTs, and ITNs) at health facilities and address stockouts, PMI has conducted 190 end-use verification surveys with government counterparts in a total of 16 PMI focus countries.

#### MITIGATING RISK AGAINST THE CURRENT MALARIA CONTROL GAINS

**Insecticide resistance:** Two of the main vector control interventions supported by PMI, ITNs and IRS, rely on a limited number of WHO-recommended insecticides from only four insecticide classes (with only one class, pyrethroids, available for use in ITNs). As countries scale up their ITN and IRS programs, increased insecticide selection pressure is placed on mosquito populations, which can accelerate the development, selection, and spread of resistance to insecticides. Therefore, it is imperative that national programs continue to conduct entomological monitoring, including testing for the presence of insecticide resistance.

From 2008 to 2015, the number of PMI-supported insecticide resistance monitoring sites in Africa has increased from 12 to approximately 190. As a result, vector resistance to pyrethroids has now been observed in all 19 PMI focus countries and resistance to carbamate insecticides in 16 PMI focus countries in Africa. The emergence of insecticide resistance has prompted changes in insecticides used for IRS in all PMI focus countries that have spray programs. For example, during the past fiscal year, **Ethiopia** and **Mozambique** conducted IRS using organophosphates for the first time, while eight countries (**Benin, Ghana, Madagascar, Mali, Senegal, Tanzania, Zambia, and Zimbabwe**) continued its use.

**ITN durability:** While the current global recommendation is to replace ITNs every 3 years, some studies have shown that certain ITNs may physically deteriorate more quickly under certain field conditions and that this is strongly dependent on behavioral and environmental conditions.

To better understand the effective life of ITNs and identify the causes of premature ITN deterioration, PMI launched a series of studies in 2008 to assess the physical durability and insecticide retention of various net brands in nine countries (**Angola, Benin, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Senegal, and Zambia**). These studies demonstrated that the physical durability of nets was highly variable from country to country with some countries showing significant net failure in as little as 2 years. As a result of these studies, some net manufacturers changed their production processes to make their ITNs more durable.

PMI used the lessons learned from these studies to develop a standardized methodology for monitoring ITN durability. In 2015, PMI supported a number of countries (including **Benin, Kenya, Senegal, Madagascar, and Mozambique**) to implement durability monitoring and began planning for implementation support in others. Over the next few years, as countries conduct new ITN distribution campaigns, support will be provided for durability monitoring in additional PMI focus countries.

**Antimalarial drug resistance:** Although there is currently no evidence of artemisinin resistance outside of the Greater Mekong Subregion (GMS), carefully performed monitoring of antimalarial efficacy in sub-Saharan Africa is now even more critical to ensure that emergence of resistance to ACTs in new areas is detected early and appropriate responses are mobilized. If widespread drug resistance and ACT treatment failures were to emerge in Africa, this would pose a severe threat to malaria control and could potentially reverse many of the dramatic reductions in malaria morbidity and mortality achieved over the last decade. PMI continues to support a therapeutic efficacy surveillance (TES) network of 46 sentinel sites in the GMS to ensure that monitoring of first-line antimalarial drugs and potential alternatives, as appropriate, are carried out every 2 years in accordance with WHO guidelines. During 2014 and 2015, PMI also provided support for planning and/or implementation of TES in 14 PMI focus countries in Africa and all countries in the GMS.<sup>3</sup>

**Combating fake and substandard medicines:** Fake and substandard malaria medicines continue to be a major global threat to effective malaria case management. These poor quality and counterfeit treatments are thought to be a contributor to malaria deaths. As a major procurer of ACTs, PMI employs a stringent quality assurance and quality control strategy to monitor the quality of drugs procured by PMI for use in PMI focus countries. To help reduce the

<sup>3</sup> TES was supported by other global malaria partners in two countries. In a third country, Liberia, TES was delayed by the Ebola emergency.

availability of counterfeit drugs in informal private sector outlets and marketplaces, PMI is collaborating with the U.S. Agency for International Development's (USAID's) Office of the Inspector General and teaming up with local police, customs agents, national medicines regulatory authorities, and drug sellers to identify fake and substandard medicines and remove them from the market. In addition, PMI partners with national medicines regulatory authorities in PMI focus countries in Africa and the GMS to help strengthen local capacity to conduct market surveillance including sampling and testing of quality of drugs found in the local marketplace and strengthening national drug quality laboratories' capacities to test the quality of drug samples collected from public and private outlets.

### BUILDING CAPACITY AND HEALTH SYSTEMS

Since its inception more than a decade ago, PMI has recognized that the long-term sustainability of malaria control and elimination depends on the strength of endemic countries' own health systems and their human capacity. In addition to providing assistance to countries to roll out malaria-specific activities, PMI also helps build national capacity in a variety of cross-cutting areas that benefit both malaria and other health programs. This support includes building health worker capacity, strengthening pharmaceutical and supply chain management systems, building infrastructure and technical capacity for laboratory and routine monitoring and evaluation systems, supporting health system financing efforts, and strengthening management and leadership skills of national malaria control programs. PMI efforts to strengthen health systems have included:

- Substantial investments in capacity building for health-care workers at the facility and community levels. In FY 2015, PMI supported training of more than 77,000 health workers in malaria case management and more than 54,000 clinicians and laboratory technicians in procedures for diagnostic testing for malaria. Furthermore, PMI supports integrated training of healthcare workers on the implementation of focused antenatal care services, including prevention of malaria in pregnancy using IPTp with SP. In FY 2015, more than 31,000 health workers were trained in IPTp delivery with PMI support. In addition, PMI has supported training for more than 36,000 people in IRS implementation.
- Providing technical assistance and programmatic support for forecasting malaria commodity requirements (e.g., diagnostic tests and drugs), conducting quality testing of

those commodities, strengthening supply chain management systems, and improving the tracking of those commodities in all PMI focus countries in Africa, improve the availability of commodities, and to protect their quality and safety. Between 2011 and 2015, the percent of PMI focus countries with adequate stocks of ACTs and RDTs at the central level increased from 15 percent for ACTs and 10 percent for RDTs to more than 65 percent and 60 percent, respectively.

- Supporting pilot efforts for health system financing in support of malaria outcomes, including contributing to implementation of health insurance schemes, health policy reform efforts, and performance-based financing approaches. During FY 2015, PMI supported the scale-up of the national health insurance scheme in **Ghana** to expand access and use of health services, including those for malaria. PMI also provided technical support for **Tanzania's** government-led performance-based financing activity, which contributes to incentives to facilities that document provision of high-quality malaria services. Monitoring and evaluation of the contributions of these efforts to malaria outcomes is ongoing.
- Through support to the U.S. Centers for Disease Control and Prevention's (CDC's) Field Epidemiology and Laboratory Training Program, PMI helped build a cadre of ministry of health staff with technical skills in the collection, analysis, and interpretation of data for decision-making and epidemiologic investigations in 11 PMI focus countries in Africa (**Angola, Democratic Republic of Congo [DRC], Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Rwanda, Tanzania, Uganda, and Zambia**) and one PMI program in the GMS (Burma). Globally, more than 100 trainees have been supported to date.

### GLOBAL AND U.S. GOVERNMENT PARTNERSHIPS

Partnerships at the country and global levels remain central to the continued success of PMI's malaria control efforts. The U.S. Government through PMI and its contributions to the Global Fund remains one of the leading donors in the fight against malaria. These investments are strategically targeted to support each focus country's malaria control strategy, and activities are coordinated with a wide range of partner organizations. These include multilateral and bilateral institutions such as the Global Fund, WHO, and UNICEF; private foundations such as the Bill & Melinda Gates Foundation, United Nations Foundation, and Malaria No More; and other U.S. Government programs (includ-

ing Department of Defense and the Office of the Global AIDS Coordinator, etc.). Furthermore, PMI has supported implementation of malaria activities through more than 200 nonprofit organizations, approximately one-third of which are faith-based.

Examples of PMI's engagement with partners during FY 2015 include:

- PMI contributed to the development and launch of two key documents, the Roll Back Malaria Partnership's *Action and Investment to defeat Malaria 2016–2030 (AIM) – for a malaria-free world* and WHO's *Global Technical Strategy for Malaria 2016–2030*. As outlined in the PMI Strategy 2015–2020, the U.S. Government shares the long-term vision of *A World without Malaria* as articulated in both documents (see Sidebar, page 5).
- Support for the Roll Back Malaria (RBM) Partnership's transition process. At the RBM Board's request, the U.S. Global Malaria Coordinator, Admiral Tim Ziemer, and the Zimbabwean Minister of Health, his Excellency Dr. David Parirenyatwa, are co-leading this process. A new RBM Board and governance structure was established in the first quarter of 2016.
- PMI partnered with other U.S. Government-supported global health programs, including the Peace Corps. With financial support from PMI, 814 Peace Corps volunteers in 11 PMI focus countries (**Benin, Ethiopia, Ghana, Madagascar, Malawi, Mozambique, Rwanda, Senegal, Tanzania, Uganda, and Zambia**) worked on joint malaria prevention activities with NMCPs, implementing partners, and PMI in-country teams, reaching more than 224,000 beneficiaries.

### A WORLD WITHOUT MALARIA

While there is much progress to be celebrated in the fight against malaria, this scourge continues to exact an unacceptable toll on the world's most vulnerable populations. Despite historic gains, WHO reported that there were still an estimated 214 million new cases of malaria and approximately 438,000 malaria-attributed deaths worldwide in 2015 alone. The overwhelming majority of these cases and deaths occurred among young children in sub-Saharan Africa. An estimated 838 children still die from malaria every day. These statistics are a sober reminder that, in the years ahead, the global community must continue to build on the progress that has been achieved and remain vigilant to avoid a resurgence of malaria. Ridding the world of malaria is an ambitious but achievable goal. PMI, with the global

malaria community, is committed to redoubling efforts, sustaining financial resources, and vigorously accelerating the scale-up of malaria prevention and treatment measures.

Achieving our bold long-term vision of *A World without Malaria* will face serious challenges, including emerging resistance to artemisinin drugs, widespread availability of substandard and counterfeit malaria treatments, resistance to key insecticides, inadequate disease surveillance systems, waning country and donor attention as malaria burden drops, and unexpected crises such as the Ebola and Zika outbreaks. Progress has not been uniform throughout Africa and, in some countries, malaria control interventions will need to be scaled up further before substantial reductions in malaria burden can be expected. In contrast, other countries have progressed to a point where malaria is no longer a leading public health problem.

As we make the case for eliminating malaria, we also must consider the economic rationale. Malaria places an economic burden on countries and has wide-ranging effects such as reducing school attendance and lowering worker productivity, in addition to the significant out-of-pocket spending on malaria treatment by households. Thus, fighting malaria not only saves lives, but also directly supports the achievement of broader development goals. A cost-benefit analysis shows that the return on investing to achieve the 2030 malaria goals ranges from 28:1 to 40:1 globally, and is 60:1 in sub-Saharan Africa, underscoring the transformative potential for growth.<sup>4</sup> Furthermore, continuing the fight against malaria will be central to achieving many of the Sustainable Development Goals (SDGs), including SDG 1 to end poverty in all its forms and SDG 3 to ensure healthy lives and promote well-being for all.

The U.S. Government, through PMI, stands as a steadfast partner in the global fight against malaria, working together with host country governments and the broader malaria partnership to maintain the momentum for malaria elimination. As PMI looks to the future and the implementation of PMI's Strategy for 2015–2020 (see box), the U.S. Government remains firmly dedicated to fighting malaria and saving lives.

4 Roll Back Malaria Partnership, Action and Investment to defeat Malaria (AIM) 2016-2030: for a Malaria-Free World.

# The President's Malaria Initiative: A Decade of Progress

PMI EXPANDS TO ADDITIONAL FOCUS COUNTRIES:



FUNDING FOR PMI COUNTRY SUPPORT:



President George W. Bush launches PMI, a major 5-year, \$1.265 billion expansion of U.S. Government resources for malaria control.



First-ever White House Summit on Malaria is convened.



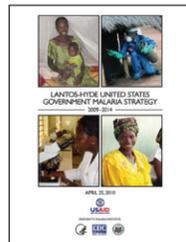
“... So we are acting, and we're leading. And with partners across the world, we are helping the people of Africa turn the tide against malaria. The goal of defeating malaria is a challenging goal, yet it can be done. It's not going to require a miracle; it just requires a smart, sustained, focused effort.”

— President George W. Bush  
White House Summit on Malaria  
December 14, 2006

The U.S. Congress passes the Tom Lantos and Henry J. Hyde Global Leadership against HIV/AIDS, Tuberculosis, and Malaria Act.



The U.S. Government Malaria Strategy 2009–2014 is launched with a goal to work with partners to halve the burden of malaria in 70 percent of the at-risk populations of sub-Saharan Africa.



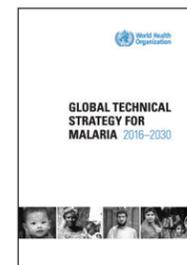
PMI commissions an external evaluation to review its performance, which found that PMI is a successful, well-led initiative.



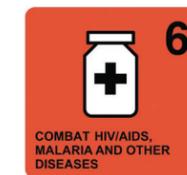
The White House launches the PMI Strategy 2015–2020, with a goal to work with PMI-supported countries and partners to further reduce malaria deaths and substantially decrease malaria morbidity, toward the long-term goal of elimination.



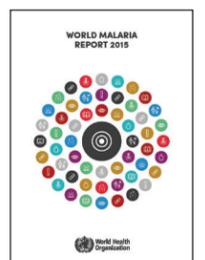
The Roll Back Malaria Partnership's Action and Investment to Defeat Malaria 2016–2030 – for A Malaria-Free World and WHO's Global Technical Strategy for Malaria 2016–2030 are launched.



WHO and UNICEF report that the Millennium Development Goal of halting and reversing malaria incidence by 2015 has been achieved.



WHO's World Malaria Report for 2015 estimates that more than 6.2 million malaria deaths were averted over the 2000–2015 period – most of them in children under the age of five.



“Leadership means a wise application of military power and rallying the world behind causes that are right. It means seeing our foreign assistance as part of our national security, not charity. ... When we help African countries feed their people and care for the sick, that prevents the next pandemic from reaching our shores. Right now, we are on track to end the scourge of HIV and AIDS, and we have the capacity to accomplish the same thing with malaria.”

— President Barack Obama  
State of the Union  
January 12, 2016

**U.S. Agency for International Development**

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