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The President's Malaria Initiative

12TH ANNUAL REPORT TO CONGRESS

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Foreword

BY IRENE KOEK, ACTING U.S. GLOBAL MALARIA COORDINATOR

When President George W. Bush launched the U.S. President's Malaria Initiative (PMI) in 2006, malaria was killing almost 700,000 people annually across Africa and choking health systems. More than a decade later, we have seen unprecedented progress in reducing malaria burden. Estimated deaths have fallen by more than 40 percent in sub-Saharan Africa alone. Health workers and ministries of health have the training and tools to control malaria.

The U.S. Government's leadership, and its financial and technical contributions through PMI, have been central to the remarkable achievements against malaria. Although global funding for malaria has plateaued in recent years, thanks to the sustained commitment and increased resources from the U.S. Congress, PMI embarked on a five-country expansion in FY 2017. The United States, through PMI, now contributes to effective malaria prevention and control for over half a billion people in Africa, from the Sahel, to the Horn, to Southern Africa. In addition, PMI supports Burma, Cambodia, and a regional program in the Greater Mekong Subregion, which tackle the challenge of resistance to antimalarial drugs.

Thanks to the generosity of the American people, PMI's budget in fiscal year (FY) 2017 was $723 million. The U.S. Government's investments alone, however, will not be enough to continue the advances toward malaria control and elimination. The most recent *World Malaria Report* indicates the progress on reducing disease and death from malaria has slowed, at least in part because malaria control activities are not yet fully funded. The global malaria community has pledged to mobilize new resources at the country level that will increase domestic funding, find innovative financing solutions, expand the base of traditional donors among emerging economies, and grow national and global private sector investment. PMI will engage in these efforts.

Mark Green, Administrator for U.S. Agency for International Development (USAID), consistently emphasizes that the purpose of foreign assistance should be ending its need to exist, as countries assume greater responsibility for their own development and economic growth. For many countries, reducing the burden of malaria is key to this goal. Some estimates indicate that eliminating malaria could save 11 million lives, and unlock an estimated $2 trillion in economic benefits from gains in productivity and health savings.[1] Fighting malaria is a smart investment to protect health, create opportunity, and foster growth and security, especially among the poor. The United States is committed through PMI to continue to support country-led work that lifts the burden malaria places on their communities. The PMI team welcomes the appointment by President Donald J. Trump of Dr. Kenneth Staley as the incoming U.S. Global Malaria Coordinator, and looks forward to working with our partners to achieve our vision of a world without malaria.

[1] Original financial modeling for Aspiration to Action. http://endmalaria2040.org/assets/Aspiration-to-Action.pdf

Introduction

Despite remarkable progress in recent years, malaria remains a leading cause of sickness and death across much of sub-Saharan Africa. Malaria disproportionately impacts the rural poor, typically people who must walk for miles to seek treatment. It is also a leading cause of absenteeism among employees, increased health care spending, decreased productivity, and approximately 50 percent of all preventable school absences in Africa. Malaria helps to trap families in a vicious cycle of disease and poverty.[2]

Between 2000 and 2015, a concerted global effort has helped reduce malaria deaths by more than 60 percent, saved almost 7 million lives, and prevented more than 1 billion malaria cases. The U.S. President's Malaria Initiative, led by USAID, and implemented together with the U.S. Centers for Disease Control and Prevention (CDC) within the U.S. Department of Health and Human Services (HHS), has been a key partner in this effort. Together with partner countries, PMI is working to optimize the use and scale-up of effective tools for the prevention and control of malaria. Simultaneously, and of equal importance, PMI is building the skills of multiple teams of health workers to deliver malaria services effectively, while empowering ministry of health leaders to manage malaria control activities with increasing self-reliance. With the support of PMI and other partners, national malaria control programs in Africa are leading their own response to achieve results in a sustainable and accountable manner.

The global malaria community has embraced a long-term vision of a world without malaria which PMI's Strategy for 2015–2020 supports (see Box). Since the launch of PMI by President George W. Bush in 2006, the U.S. Government has shown unwavering commitment to ending malaria. Increases in appropriations from Congress enabled PMI to add new countries beyond the original 15 envisioned at the time of PMI's launch (see Figure 1). In FY 2017, thanks to increased funding for PMI from the U.S. Congress, PMI announced plans for a five-country expansion adding programs in Burkina Faso, Cameroon, Côte d'Ivoire, Niger, and Sierra Leone, which grew PMI's reach to 24 malaria-endemic countries in sub-Saharan Africa, including those with the highest burden, and three programs in the Greater Mekong Subregion of Southeast Asia.

[2] Roll Back Malaria Factsheet on Malaria and the Sustainable Development Goals: Malaria and Education (September 2015).

PMI'S STRATEGY 2015-2020

Vision: A World without Malaria

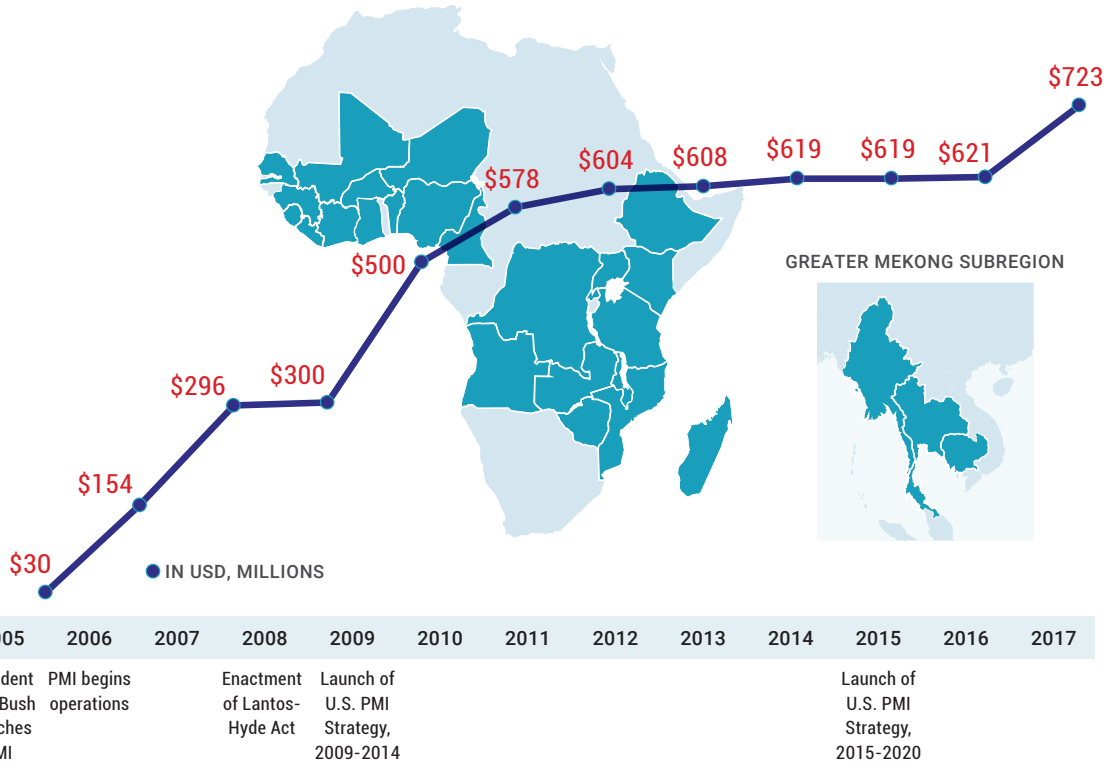
Objectives:

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

Strategic Areas of Focus:

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

FIGURE 1. PMI Country Funding, 2005-2017



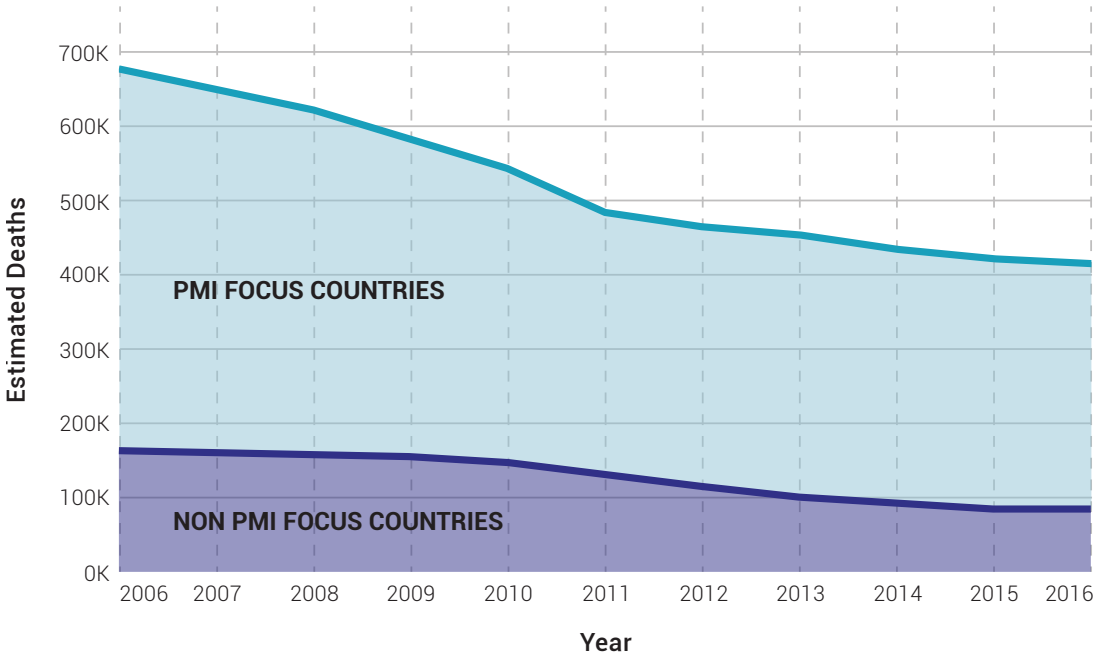
NOTE: Please refer to Appendix 1 for more information on annual funding by country. This graphic does not include funding programmed for malaria beyond PMI focus countries. USAID also supports programs in Burundi and in Latin America and the Caribbean region, complemented by a portfolio of malaria research and other discrete investments that advance global malaria policy. In addition to the PMI country funding shown above, the U.S. Government is the largest donor to the Global Fund. The Global Fund was the other leading source of donor funding for country malaria programs over the same period.

Outcomes and Impact

In FY 2017, PMI's program benefitted more than 480 million people at risk of malaria across sub-Saharan Africa and in targeted communities at risk for malaria in the Greater Mekong Subregion. These investments by PMI and partners are yielding results. According to the 2017 World Malaria Report, between 2006 and 2016,

- Malaria mortality rates decreased by 54 percent in sub-Saharan Africa; 18 PMI focus countries achieved 17 percent to 74 percent reductions (see Figure 2), and
- Malaria case incidence decreased by 30 percent in sub-Saharan Africa; 16 PMI focus countries achieved 8 percent to 74 percent reductions.

FIGURE 2. Decreasing Malaria Deaths in sub-Saharan Africa, 2006-2016



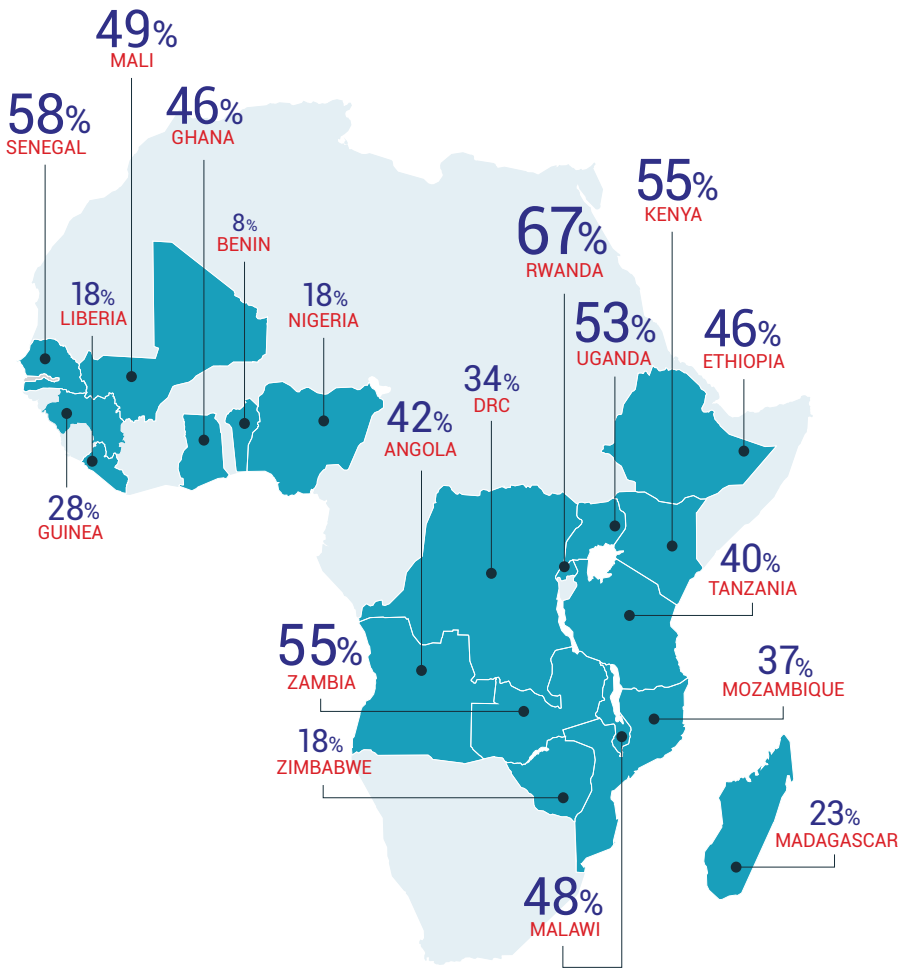
NOTE: This figure reflects data from 19 PMI focus countries and 24 non-focus countries in sub-Saharan Africa. Source: WHO *World Malaria Report, 2017*, Annex 3 - F.a. Estimated malaria cases and deaths, 2010–2016.

PMI STRATEGY 2015-2020 Objective 1: Reduce malaria mortality

Only 20 years ago, malaria was the number one cause of mortality in children under five years of age in sub-Saharan Africa. When PMI began implementation in 2006, malaria was ranked as the second leading cause of death in children. By 2017, malaria mortality in children fell to the fourth leading cause of death.[3] The decline in malaria deaths in children has likely contributed greatly to the observed reductions in all-cause under-five mortality observed in many sub-Saharan African countries. To date, excluding the five new PMI countries announced in 2017, all 19 PMI focus countries in Africa have data from paired nationwide surveys that document declines in all-cause mortality rates among children under five (see Figure 3).

[3] Child Health Epidemiology Reference Group.

FIGURE 3. Reductions in All-Cause Mortality Rates of Children Under Five Years of Age in PMI Focus Countries



NOTE: All 19 PMI focus countries included in this figure have at least 2 data points from nationwide household surveys that measured all-cause mortality in children under the age of five. Please refer to Figure 1 in Appendix 3 for more detail including the source and year of the surveys.

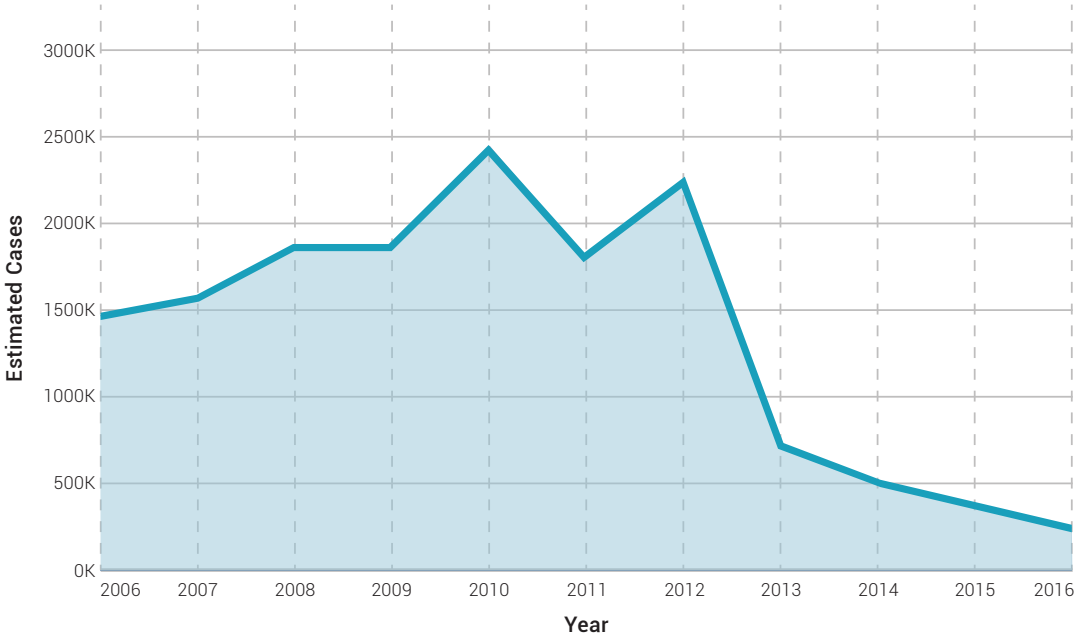
PMI measures progress according to the stated objectives of its *2015-2020 Strategy*, global goals in malaria control, and the Sustainable Development Goals. According to World Health Organization (WHO) 2016 malaria mortality estimates, 17 PMI countries have seen reductions in mortality of 30 percent or greater, and 14 of those countries have seen reductions of 50 percent or greater since PMI's original baseline levels in 2000. This is evidence PMI is progressing towards achieving its strategic mortality objective.

PMI STRATEGY 2015-2020 Objective 2: Reduce malaria morbidity

In addition to the reductions in malaria mortality, a number of PMI focus countries also have documented significant decreases in the number of reported malaria cases. Some high burden countries saw reductions in the incidence of malaria cases between 2006 and 2016 including the Democratic Republic of the Congo (DRC) (42%), Liberia (36%), Tanzania (44%), and Uganda (55%) as have those countries that incorporated elimination into their national strategies such as Ethiopia (74%), Sénégal (58%), and Zimbabwe (59%).[4] The Greater Mekong Subregion has seen a steady reduction of cases with the largest drops attributed to Burma over the past few years (see Figure 4).

[4] World Health Organization.

FIGURE 4. Estimated Malaria Cases in Mekong, 2006-2016



NOTE: The figure reflects data from three PMI programs in the Mekong (Burma, Cambodia, and Thailand). Source: WHO *World Malaria Report, 2017*, Annex 3 - F.a. Estimated malaria cases and deaths, 2010–2016.

PMI STRATEGY 2015-2020 Objective 3: Elimination

Seven PMI focus countries (Burma, Cambodia, Ethiopia, Madagascar, Sénégal, Zambia, and Zimbabwe) and Zanzibar in the United Republic of Tanzania have adopted national strategies that include an elimination goal, and are conducting specific supporting activities. As countries move towards elimination, identifying, tracking, and following up every malaria case becomes an important tool to interrupt malaria transmission and identify active foci of transmission. PMI is funding enhanced case finding and investigation activities in Burma, Cambodia, Sénégal, and Zanzibar.

Countries in the Greater Mekong Subregion are on the leading edge of PMI countries in their efforts to eliminate malaria. Burma has seen a reduction in estimated malaria cases from 1.5 million in 2011 to 142,000 in 2016. With funding and technical support from PMI, a pilot elimination package implemented in Cambodia's Sampov Loun Operational District in Battambang Province resulted in the interruption of local transmission of *P. falciparum*, with the last case of locally transmitted falciparum malaria identified in March 2016. PMI is now supporting the expansion of elimination efforts to the entire Province of Battambang, which, along with neighboring Pailin Province, were epicenters of artemisinin resistance in the Greater Mekong Subregion. Eliminating malaria in Battambang has been a global priority in efforts to prevent the emergence and spread of resistance to malaria treatments.

RESEARCHERS CONFIRM THE IMPACT OF PMI

Three important publications in 2017 documented the impact of PMI and its partners' malaria control interventions in sub-Saharan Africa:

- Jakubowski and colleagues (PlosMedicine, June 2017) estimated PMI's contributions to malaria control in 19 sub-Saharan African countries and determined, "PMI was associated with a **16% decline in annual risk of all-cause under-5 mortality.**"
- Winskill, P., et al (PlosMedicine, November 2017) used mathematical modeling to describe the significant role PMI has had in reducing malaria cases and deaths, **helping to prevent 185 million malaria cases and 940,049 deaths** in sub-Saharan Africa and the Mekong since its launch.
- In September 2017, PMI published a supplement to the *American Journal of Tropical Medicine and Hygiene* titled "*Evaluating the Impact of Malaria Control Interventions in sub-Saharan Africa*." The supplement documents PMI's rigorous efforts to assess the impact of malaria control in PMI-supported countries in sub-Saharan Africa. Results **reinforced the link between the scale up of malaria interventions and reductions in malaria morbidity and child mortality**.

Building Capacity To Achieve And Sustain Scale

Investing in delivering effective coverage of interventions to prevent and control malaria has been the top priority for PMI since its start. With ministries of health in the lead and in close collaboration with global partners, PMI has sustained its focus on supporting countries to scale up proven, cost-effective interventions

PMI AND THE GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS, AND MALARIA

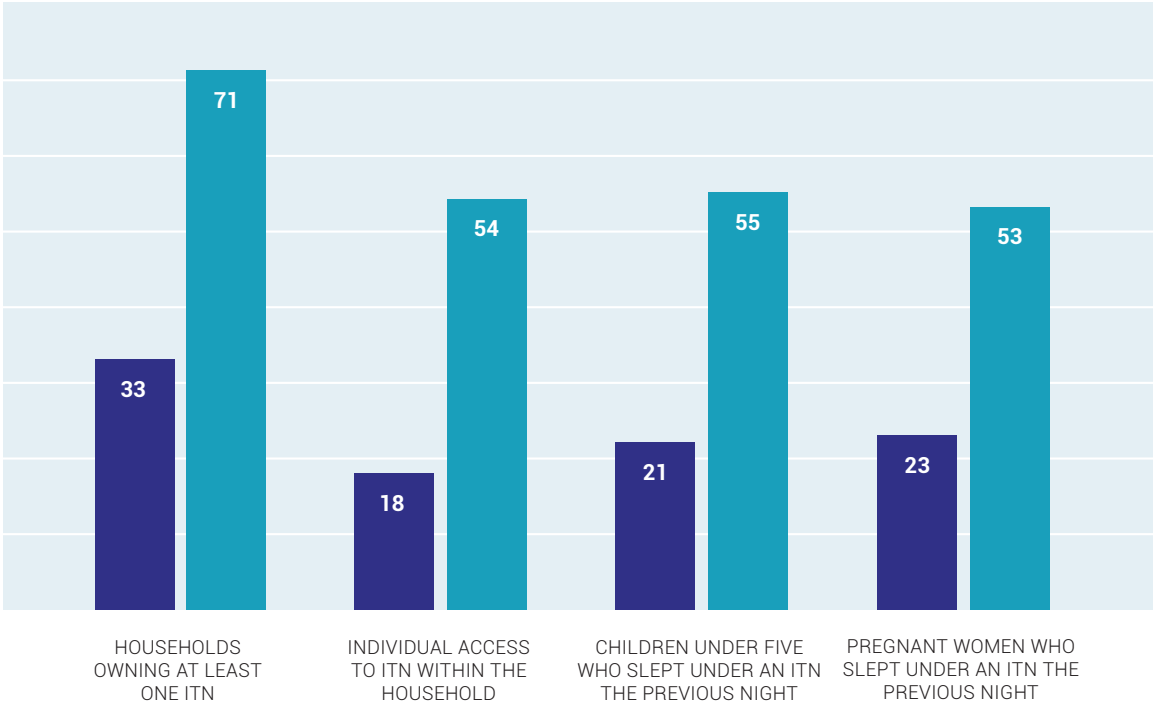
The United States was the founding donor to the Global Fund in 2001, and is still the largest financial contributor to the organization. PMI has been closely engaged with the Global Fund since 2006, and the U.S. Global Malaria Coordinator serves on the U.S. delegation to the Global Fund Board. Twelve years of collaboration mean PMI and the Global Fund's malaria programs have a symbiotic relationship, and their success is mutually dependent in many countries. The Global Fund's malaria investments in sub-Saharan Africa are heavily commoditized — focused on the purchase and delivery of drugs and bednets — and PMI complements these grants in the planning and execution of country programs, bringing on-the-ground technical assistance. PMI and the Global Fund, including the Inspectors General of both institutions, also cooperate closely to combat counterfeiting and the theft and diversion of antimalarial medications. The U.S. Government invested $1.35 billion in the Global Fund in FY 2017, with approximately one-third of all Global Fund country grants financing malaria control and elimination programs.

that include: insecticide-treated nets (ITNs), indoor residual spraying (IRS), intermittent preventive treatment for pregnant women (IPTp), seasonal malaria chemoprevention (SMC), and effective case management (i.e., rapid diagnosis and treatment for confirmed cases with artemisinin-based combination therapies). Millions of people benefit from this financial and technical support (see Appendix 2), and data from nationwide household surveys document significant improvements in the population coverage and impact of malaria control interventions in PMI focus countries (see Figures 5 and 6).

PMI support works through and helps strengthen host-country public and private health systems (e.g., infrastructure, personnel, information systems, etc.). For a child who is sick with malaria and living in a remote village to receive appropriate care, multiple components, led and managed locally and spanning all levels of the health care system, must be well-functioning and coordinated.

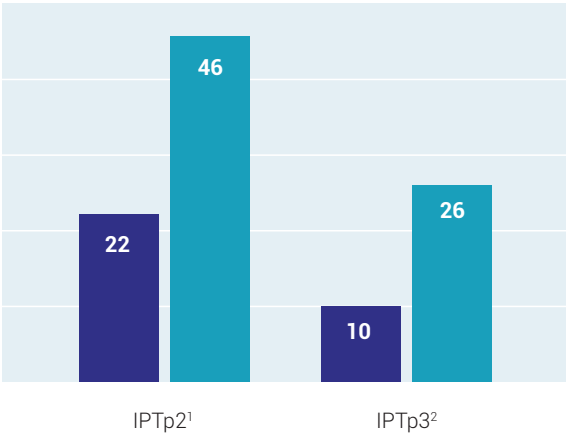
At the community level, PMI supports social and behavior change activities to educate caregivers to recognize the signs and symptoms of malaria and know when and where to seek care for their children. PMI is financing the training, equipping, and supervising of community health workers and the health facility staff who support them. At the district level, PMI builds the skills of health management teams so they can effectively implement health services. At the provincial and central levels, PMI partners with national malaria control programs and ministries of health to support management and technical leadership and strengthen programmatic planning, coordination, and oversight. Across all levels, PMI supports core components of efficient health care: the capacity to plan activities and coordinate partners, well-functioning routine health information systems to track trends in malaria cases and forecast commodity needs from national level down to individual health facilities, and systems to monitor the security and quality of commodities and services delivered.

FIGURE 5. Average ITN Coverage Rates in PMI Focus Countries



NOTE: Percentages are a mean of data from nationwide household surveys in all 19 PMI focus countries in sub-Saharan Africa. Please refer to Appendix 3 for more detail including definition of the indicators, data points by country, survey name, and year.

FIGURE 6. Average IPTp Coverage Rates in PMI Focus Countries



NOTE: Percentages are a mean of data from nationwide household surveys. Columns include data from PMI focus countries with at least two comparable household surveys available where IPTp is national policy (see footnotes below). The WHO updated its policy recommendation on IPTp-SP in October 2012; countries adopted and rolled out implementation of this policy during the subsequent years (with implementation in some countries still in progress). Thus data from all baseline surveys and some of the most recent surveys does not reflect implementation of an IPTp3 policy. Please refer to Appendix 3 for more detail including definition of the indicators, data points by country, survey name, and year.

[1] IPTp2: Angola, Benin, DRC, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Sénégal, Tanzania, Uganda, and Zambia

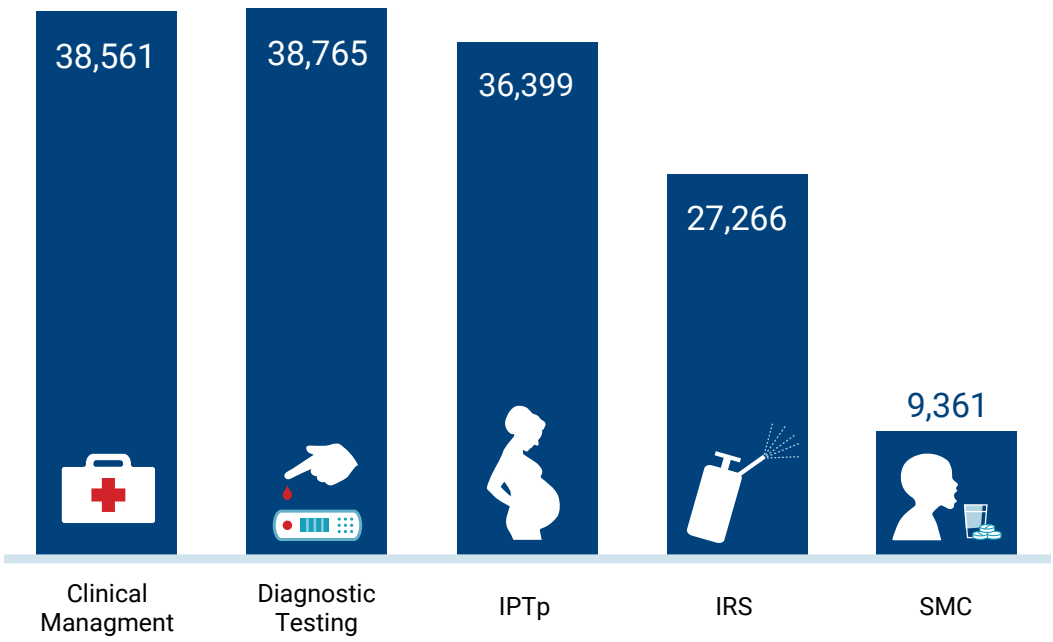
[2] IPTp3: Angola, Benin, Ghana, Kenya, Liberia, Madagascar, Malawi, Mozambique, Nigeria, Sénégal, Tanzania, Uganda, and Zambia

In FY 2017, PMI continued to work with national malaria control programs to identify their technical and programmatic priorities for capacity building and leveraged investments from USAID and other donors to address these needs. PMI funded the integrated training of tens of thousands of facility and community health workers, laboratory technicians, and community mobilizers (see Figure 7). Complementing its significant investments in the procurement and delivery of drugs and supplies, PMI financed activities to strengthen pharmaceutical and supply chain management systems — from the selection of appropriate drugs to accurate quantification to improved stock management to combatting fraud, counterfeit, and theft — which resulted in reductions in stockouts. PMI increasingly funds capacity building efforts to foster data-driven decision-making at all levels, and to empower national malaria control programs to determine the most appropriate combination of interventions to prevent and control malaria to address changing patterns of transmission.

Data across intervention areas confirm that PMI's support to countries for systems strengthening is paying off:

- To date, all 19 PMI focus countries in Africa have either fully transitioned, or are planning to transition, their health management information systems to the District Health Information System-2 (DHIS2), an open-source electronic platform that enables real-time access to data at national and subnational levels. Malaria is a component of these integrated, country-owned and operated data systems.
- To monitor the availability of malaria commodities at health facilities and address stockouts, PMI and government counterparts conducted 250 end-use verification surveys in 16 PMI focus countries, to date.
- Between FY 2012 and FY 2017, the percent of PMI focus countries with adequate stocks of artemisinin-based combination treatments (ACTs) and rapid diagnostic tests (RDTs) at the central level increased from an average of 40 to 71 percent and 38 to 52 percent, respectively. In addition, the percent of PMI focus countries reporting no central level stockouts of ACTs and RDTs increased from an average of 88 to 100 percent for RDTs and 93 to 98 percent for ACTs.

FIGURE 7. Numbers of Workers Trained with PMI Funds, FY 2017



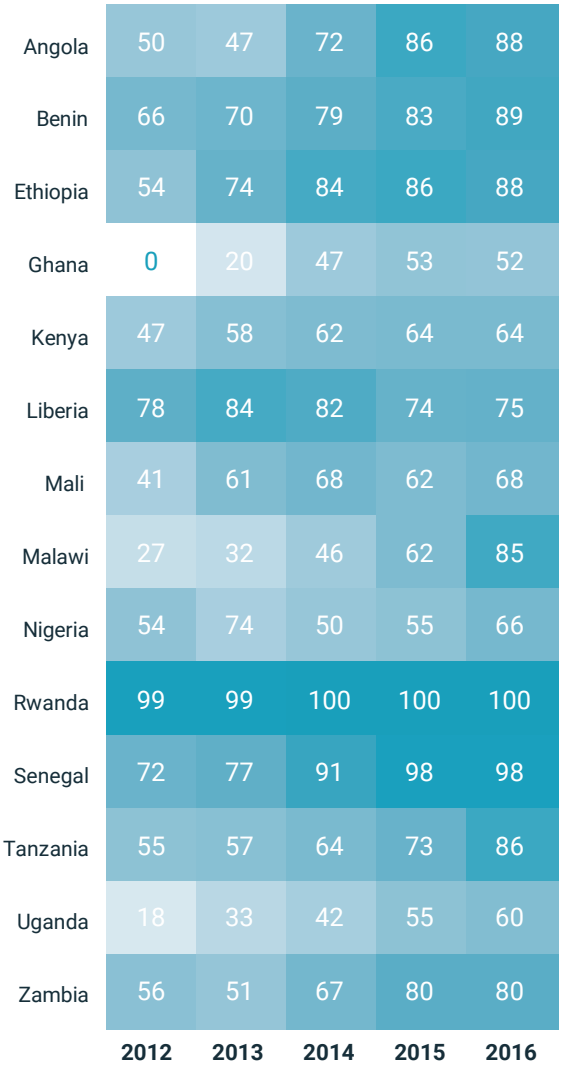
- By FY 2017, 13 countries reached at least 60 percent confirmation of malaria cases by diagnostic test, 8 of which reached 80 percent confirmation; this is a marked improvement from 2012 when baselines from 4 countries ranged from 0 to 27 percent confirmation (see Figure 8). Increased confirmation rates mean that more people are being diagnosed correctly for malaria, and that antimalarials are only given to those who test positive for malaria.

- During FY 2017, PMI continued to support therapeutic efficacy surveillance (TES) sites across sub-Saharan Africa and the Greater Mekong Subregion. From 2015-2017, PMI strengthened local capacity to monitor first-line antimalarial drugs and potential alternatives at 41 sites in the Greater Mekong Subregion. During this same time period, PMI worked with national counterparts to undertake TES at 34 sites across 9 countries in Africa as well as the monitoring of K13 mutations at 24 sites across 7 countries. To date, none of the sites that are monitoring K13 mutations in Africa have identified an occurrence of the marker associated with artemisinin resistance (see Figure 9).

- With PMI's support, all 19 PMI focus countries in Africa currently conduct systematic entomological monitoring of mosquito species composition, behavior, and insecticide resistance at regular intervals. Across PMI focus countries, approximately 230 sites measure insecticide resistance (see Figure 10); the detection of resistance has prompted changes in the insecticides used for IRS, and all PMI-funded IRS activities in FY 2017 used a long-lasting organophosphate insecticide. In seven countries, PMI supported the rollout of entomological monitoring databases to compile data to improve decision-making around vector control interventions. Moving forward, PMI plans to support the incorporation of an entomology module into the DHIS2 surveillance platform.

- Through funding to the Field Epidemiology and Laboratory Training Program, devised by HHS/CDC, PMI helps build a cadre of ministry of health staff with technical skills in the collection, analysis, and

FIGURE 8. Percentage of Reported Malaria Cases Confirmed by Diagnostic Test, 2012-2016

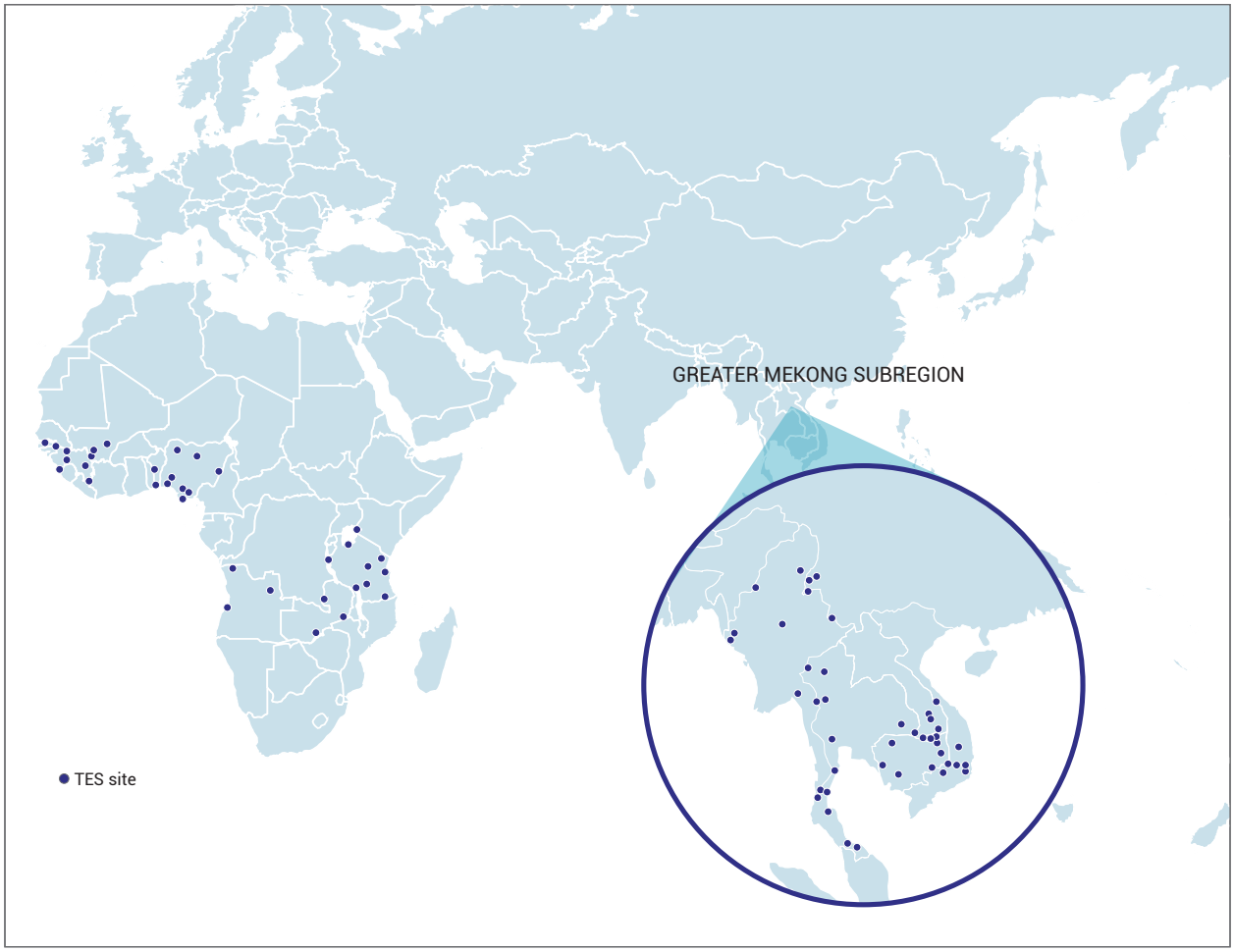


NOTE: Graphic includes PMI focus countries with data from at least 2012. DRC, Guinea, Madagascar, Mozambique and Zimbabwe only reported confirmed cases; since the data are not comparable to the other countries, the graphic above does not include these countries. Data source: PMI FY 2018 Malaria Operational Plans, *Table 4. Evolution of Key Malaria Indicators Reported through Routine Surveillance Systems (2012-2016).* The numerator is the number of cases confirmed by diagnostic test and the denominator is the total number of reported cases (confirmed + clinical).

interpretation of data for decision-making, policy formulation, and epidemiologic investigations and response in 11 PMI focus countries in Africa (Angola, DRC, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Rwanda, Tanzania, Uganda, and Zambia) and in Burma. The program has graduated more than 150 trainees globally, a number of whom have gone on to serve in high level positions including the manager of the National Malaria Reference Laboratory in Kenya, the acting director of the National Malaria Control Program in Angola, the director of the largest sub-national reference laboratory in the DRC, and high level positions at national and state ministries of health in Nigeria and Tanzania.

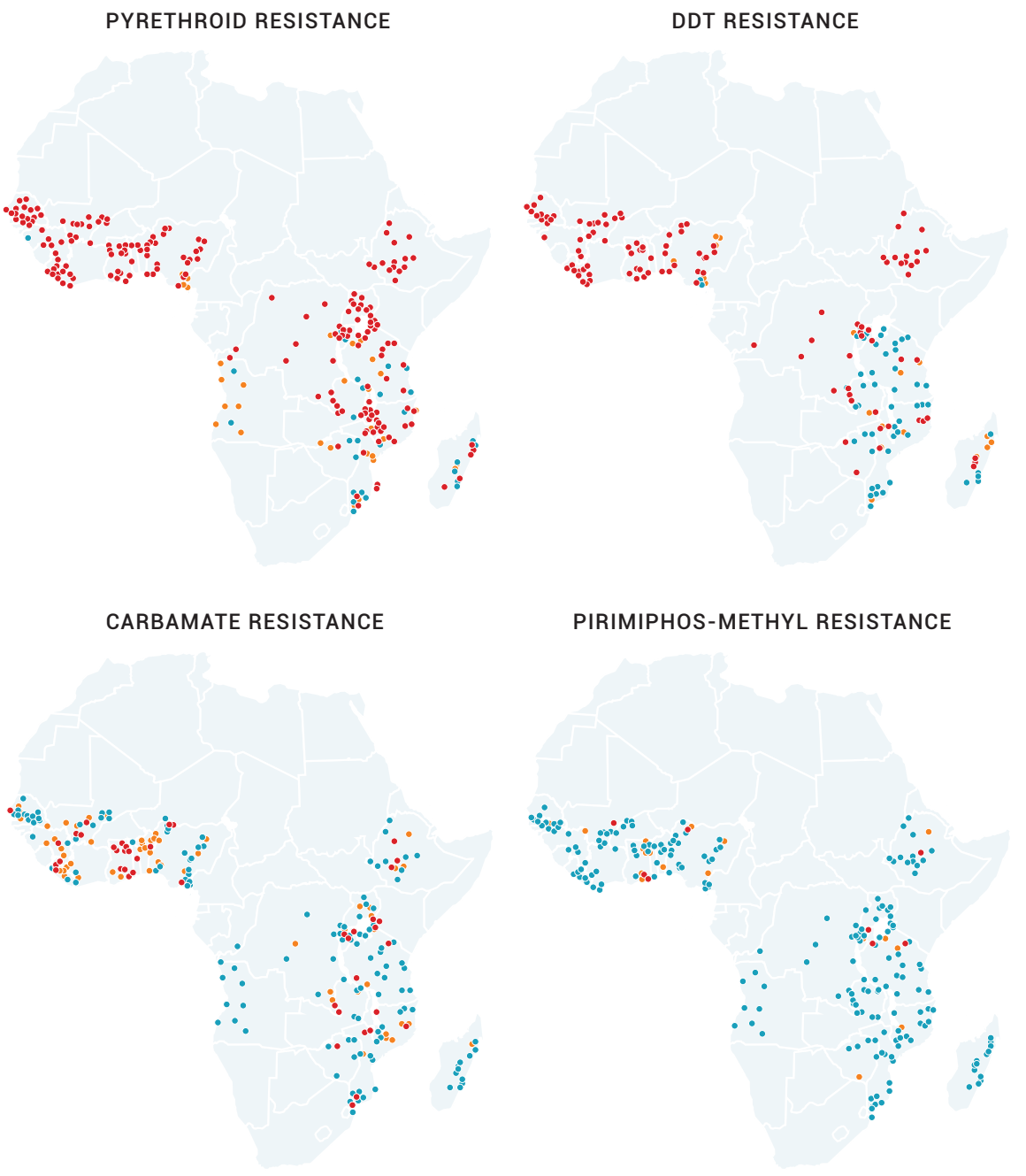
The benefits of PMI's capacity building efforts reach far beyond malaria. Integrating training in malaria case management into broader courses on the management of the sick child makes health care workers more capable of delivering a broad range of care. In addition, other departments within ministries of health can leverage information and logistics systems and laboratories strengthened by PMI investments. The Initiative's support also builds capacity for ministries of health in the leadership, management, and oversight of their programs.

FIGURE 9. Therapeutic Efficacy Monitoring Sites Receiving PMI Funding and Support, 2015-2017*



*PMI's support entails full- or partial-funding to TES and/or molecular analysis of drug resistance.

FIGURE 10. Resistance to Pyrethroid, DDT, Pirimiphos-methyl, and Carbamate Detected at PMI-Funded Insecticide Resistance Sites in Africa, 2017



NOTE: Each dot represents one insecticide resistance monitoring site. (Each site could have detected more than one type of resistance.) Mosquito resistance to pyrethroids has been detected in all 19 PMI focus countries in Africa. Confirmed resistance to carbamate insecticides has been detected in 15 countries, and potential resistance to carbamate in an additional three. Resistance to pirimiphos-methyl, possibly attributable to use of the insecticide for agricultural purposes, has been newly detected in five countries in non-IRS areas.

PMI'S GLOBAL AND U.S. GOVERNMENT PARTNERSHIPS

From its inception and launch 12 years ago, PMI recognized that achieving its ambitious goals would not be possible without meaningful partnerships. PMI's investments strategically align with partner countries' malaria control plans, and leverage financial and technical support from others.

PMI draws on the strengths and talents of both USAID and CDC, as well as the Peace Corps and the Departments of Defense, State, and Health and Human Services, and the National Institutes of Health.

Working in partnership with national malaria control programs, frontline health workers, and communities, PMI brings to scale proven, effective malaria interventions that advance countries along the pathway towards eliminating malaria, while building capacity and expertise in the process.

PMI collaborates closely with the Global Fund to Fight AIDS, Tuberculosis and Malaria, leveraging joint investments in partner country priorities to control and eliminate malaria. This collaboration ensures PMI and Global Fund investments complement each other and fill priority needs. The Initiative also works in partnership with the WHO, United Nations Children's Fund, the RBM Partnership to End Malaria, and many more agencies and organizations.

PMI has also mobilized support from the private and commercial sectors, promoted the use of those resources for appropriate and effective interventions, and supported coordination with government strategies and plans for malaria control. Historically, this has primarily involved working with large mining and oil companies that wish to protect their workforce through vector control as part of a corporate social responsibility portfolio. More recently, the work included partnerships with private cellular and technology companies. In Angola, for example, Unitel sent out text message reminders during the recent bednet mass campaign.

To advance the global malaria control agenda, PMI also works with foundations including the Bill & Melinda Gates Foundation and the United Nations Foundation, as well as advocacy groups such as Malaria No More.

PMI has long-standing relationships with non-governmental and faith-based organizations that often have the ability to reach remote, marginalized, and underserved populations in focus countries. Through support to community-based organizations, and in close coordination with national malaria control programs and local health authorities, PMI is improving community-level access to critical malaria prevention and treatment services, while also building local capacity and ensuring sustainability. PMI has funded more than 200 local and international non-profit organizations to implement interventions and deliver critical malaria services in all PMI focus countries.

Conclusion

Even with significant progress in scaling up proven interventions, malaria remains a major public health challenge, and progress could be slowing. According to the *2017 World Malaria Report*, an estimated 216 million cases and 445,000 deaths from malaria occurred globally in 2016 (compared with 210 million cases and 446,000 deaths in 2015). Africa continues to bear the heaviest burden, with roughly 194 million cases and 401,000 deaths in 2016, more than for 90 percent of the global malaria burden.

Malaria prevention and control remains an important U.S. foreign assistance priority and a component of the U.S. Government's national security strategy.

Increasingly, malaria cases and deaths have become highly concentrated in a limited number of countries: 16 countries account for 80 percent of the global malaria burden, 15 of which are in sub-Saharan Africa. (With the exception of Chad, all are current PMI focus countries.) Eight of these countries have seen an increase of more than 20 percent in estimated malaria cases between 2015 and 2016. These countries include the largest and most complex countries of Nigeria (27 percent of global cases) and DRC (10 percent of global cases). The WHO points to the need to intensify further efforts in those high burden countries where major gaps in intervention coverage exist and resources are lacking, including from domestic sources.

Challenges that remain include maintaining coverage with key interventions, encouraging people to sleep under their ITNs consistently, addressing resistance to drugs and insecticides, training health workers to adhere to RDT results, and mitigating risks in supply chains to ensure consistent stock levels of medicines and commodities. To sustain the gains made in preventing and controlling malaria, those still at risk of malaria must continue to adhere to recommendations to reduce their exposure, even if they perceive their risk has diminished. In addition, the governments of affected countries and donors must offer continued commitment and resourcing as they balance competing funding priorities.

Malaria prevention and control remains an important U.S. foreign assistance priority. Foreign assistance investments by the U.S. Government empower people, communities, and economies to progress on the path to self-reliance, and malaria interventions are among the most cost-effective. Continuing to invest in efforts to reduce and eliminate malaria will generate benefits for communities and nations that resonate across businesses, agriculture, education, health systems, and households. America's leadership and financial commitment have been indispensable in the fight against malaria. The work of PMI intentionally aims to support the leadership of partner countries in their quest to end malaria, and thereby contributes to overall development, peace, and stability.

Appendices

APPENDIX 1: PMI FUNDING FY 2006- FY 2017 (IN USD)

Country[1]	FY 2005 Jump-Start Funding	FY 2006	FY 2007[2]	FY 2008[3]	FY 2009	FY 2010[4]	FY 2011[5]	FY 2012[6]	FY 2013[7]	FY 2014[9]	FY 2015[10]	FY 2016[11]	FY 2017[12]	Total
Angola	1,740,000	7,500,000	18,500,000	18,846,000	18,700,000	35,500,000	30,614,000	30,750,000	28,547,000	29,000,000	28,000,000	27,000,000	22,000,000	296,697,000
Tanzania	2,000,000	11,500,000	31,000,000	33,725,000	35,000,000	52,000,000	46,906,000	49,000,000	46,057,000	46,000,000	46,000,000	46,000,000	44,000,000	489,188,000
Uganda	510,775	9,500,000	21,500,000	21,822,000	21,600,000	35,000,000	34,930,000	33,000,000	33,782,000	34,000,000	34,000,000	34,000,000	33,000,000	346,644,775
Malawi		2,045,000	18,500,000	17,854,000	17,700,000	27,000,000	26,447,000	24,600,000	24,075,000	22,000,000	22,000,000	22,000,000	22,000,000	246,221,000
Mozambique		6,259,000	18,000,000	19,838,000	19,700,000	38,000,000	29,241,000	30,000,000	29,023,000	29,000,000	29,000,000	29,000,000	29,000,000	306,061,000
Rwanda		1,479,000	20,000,000	16,862,000	16,300,000	18,000,000	18,962,000	18,100,000	18,003,000	17,500,000	18,000,000	18,000,000	18,000,000	199,206,000
Senegal		2,168,000	16,700,000	15,870,000	15,700,000	27,000,000	24,451,000	24,500,000	24,123,000	24,000,000	24,000,000	24,000,000	25,000,000	247,512,000
Benin		1,774,000	3,600,000	13,887,000	13,800,000	21,000,000	18,313,000	18,500,000	16,653,000	16,500,000	16,500,000	16,500,000	16,000,000	173,027,000
Ethiopia		2,563,000	6,700,000	19,838,000	19,700,000	31,000,000	40,918,000	43,000,000	43,772,000	45,000,000	44,000,000	40,000,000	37,000,000	373,491,000
Ghana		1,478,000	5,000,000	16,862,000	17,300,000	34,000,000	29,840,000	32,000,000	28,547,000	28,000,000	28,000,000	28,000,000	28,000,000	277,027,000
Kenya		5,470,000	6,050,000	19,838,000	19,700,000	40,000,000	36,427,000	36,450,000	34,257,000	35,000,000	35,000,000	35,000,000	35,000,000	338,192,000
Liberia			2,500,000	12,399,000	11,800,000	18,000,000	13,273,000	12,000,000	12,372,000	12,000,000	12,000,000	14,000,000	14,000,000	134,344,000
Madagascar		2,169,000	5,000,000	16,862,000	16,700,000	33,900,000	28,742,000	27,000,000	26,026,000	26,000,000	26,000,000	26,000,000	26,000,000	260,399,000
Mali		2,490,000	4,500,000	14,879,000	15,400,000	28,000,000	26,946,000	27,000,000	25,007,000	25,000,000	25,000,000	25,000,000	25,000,000	244,222,000
Zambia		7,659,000	9,470,000	14,879,000	14,700,000	25,600,000	23,952,000	25,700,000	24,027,000	24,000,000	24,000,000	25,000,000	30,000,000	248,987,000
DRC						18,000,000	34,930,000	38,000,000	41,870,000	50,000,000	50,000,000	50,000,000	50,000,000	332,800,000
Nigeria						18,000,000	43,588,000	60,100,000	73,271,000	75,000,000	75,000,000	75,000,000	75,000,000	494,959,000
Guinea							9,980,000	10,000,000	12,370,000	12,500,000	12,500,000	15,000,000	15,000,000	87,350,000
Zimbabwe							11,977,000	14,000,000	15,035,000	15,000,000	15,000,000	15,000,000	15,000,000	101,012,000
Mekong[8]							11,976,000	14,000,000	3,521,000	3,000,000	3,000,000	3,000,000	3,000,000	41,497,000
Burma									6,566,000	8,000,000	9,000,000	10,000,000	10,000,000	43,566,000
Cambodia									3,997,000	4,500,000	4,500,000	6,000,000	10,000,000	28,997,000
Burkina Faso													25,000,000	25,000,000
Cameroon													20,000,000	20,000,000
Côte D'Ivoire													25,000,000	25,000,000
Niger													18,000,000	18,000,000
Sierra Leone													15,000,000	15,000,000
Headquarters		1,500,000	10,000,000	21,596,500	26,100,000	36,000,000	36,000,000	36,000,000	37,500,000	37,500,000	38,000,000	38,000,000	38,000,000	356,196,500
PMI Total		**30,000,000**	**154,200,000**	**295,857,500**	**299,900,000**	**500,000,000**	**578,413,000**	**603,700,000**	**608,401,000**	**618,500,000**	**618,500,000**	**621,500,000**	**723,000,000**	**5,651,971,500**
Jump-Start Total	**4,250,775**	**35,554,000**	**42,820,000**	**0**	**0**	**36,000,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**118,624,775**
Total Overall	**4,250,775**	**65,554,000**	**197,020,000**	**295,857,500**	**299,900,000**	**536,000,000**	**578,413,000**	**603,700,000**	**608,401,000**	**618,500,000**	**618,500,000**	**621,500,000**	**723,000,000**	**5,770,596,275**

[1] This table does not include other U.S. Government funding for malaria activities from the U.S. Agency for International Development (USAID), the U.S. Centers for Disease Control and Prevention (CDC), the National Institutes of Health or the Department of Defense. [2] $25 million plus-up funds include $22 million allocated to 15 PMI focus countries ($19.2 million for Round 2 countries and $2.8 million for jump-starts in Round 3 countries). [3] Levels after USAID 0.81-percent rescission. [4] In FY 2010, USAID also provided funding for malaria activities in Burkina Faso ($6 million), Burundi ($6 million), Pakistan ($5 million), South Sudan ($4.5 million), the Amazon Malaria Initiative ($5 million), and the Mekong Malaria Programme ($6 million). [5] In FY 2011, USAID also provided funding for malaria activities in Burkina Faso ($5,988,000), Burundi ($5,988,000), South Sudan ($4,491,000), and the Amazon Malaria Initiative ($4,990,000). [6] In FY 2012, USAID also provided funding for malaria activities in Burkina Faso ($9,000,000), Burundi ($8,000,000), South Sudan ($6,300,000), and the Amazon Malaria Initiative ($4,000,000). [7] In FY 2013, USAID also provided funding for malaria activities in Burkina Faso ($9,421,000), Burundi ($9,229,000), South Sudan ($6,947,000), and the Amazon Malaria Initiative ($3,521,000). [8] Starting in FY 2011, PMI funding to the Greater Mekong Subregion was programmed through the Mekong Regional Program. With FY 2013 funding, PMI began supporting activities in Burma and Cambodia directly. In addition, PMI continued to provide FY 2013 funding to the Mekong Regional Program for activities in the region outside of the PMI Burma and PMI Cambodia bilateral programs. [9] In FY 2014, USAID also provided funding for malaria activities in Burkina Faso ($9,500,000), Burundi ($9,500,000), South Sudan ($6,000,000), and the Amazon Malaria Initiative ($3,500,000). [10] In FY 2015, USAID also provided funding for malaria activities in Burkina Faso ($12,000,0000), Burundi ($12,000,000), South Sudan ($6,000,000), and Latin America and the Caribbean Region ($3,500,000). [11] In FY 2016, USAID also provided funding for malaria activities in Burkina Faso ($14,000,0000), Burundi ($9,500,000), South Sudan ($6,000,000), and Latin America and the Caribbean Region ($5,000,000). [12] In FY 2017, USAID also provided funding for malaria activities in Burundi ($9,000,000) and Latin America and the Caribbean Region ($5,000,000).

APPENDIX 2: PMI CONTRIBUTIONS SUMMARY

The reporting timeframe for this PMI annual report is the 2017 fiscal year (October 1, 2016 to September 30, 2017). PMI counts commodities (ITNs, SP tablets, ACT treatments, RDTs) as "procured" once a purchase order or invoice for those commodities has been released by the procurement service agent during the reporting fiscal year. Depending on the country, commodities are reported as "distributed" once they have reached the central medical stores or once they have transitioned beyond the central medical stores to regional warehouses, health facilities, or other distribution points.

Artemisinin-based Combination Treatments Procured and Distributed with PMI Support

ACTs Procured
ACTs Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1,2]	PMI Year 8 (FY2013)[3]	PMI Year 9 (FY2014)[4]	PMI Year 10 (FY2015)[5]	PMI Year 11 (FY2016)[10]	PMI Year 12 (FY2017)[11]	Cumulative[6]
Angola	587,520	2,033,200	3,035,520	5,572,860	3,767,040	3,770,010	7,429,800	1,539,000	720,390	1,185,360	2,969,910	338,000	29,178,600
	–	1,689,321	3,109,089	1,947,188	3,567,360	3,770,010	3,600,000	3,829,800	1,539,000	1,185,360	2,969,910	676,000	27,883,038
Tanzania	380,160	694,050	146,730	4,001,760	8,751,150	7,608,900	8,201,910	6,278,820	1,674,840	2,644,560	1,229,550	2,763,390	40,804,260
	380,160	494,050	346,730	544,017	4,873,207	8,819,640	8,663,280	1,593,300	7,668,300	3,134,280	1,229,550	1,796,520	37,235,644
Uganda	261,870	–	1,140,480	–	2,085,120	2,085,120	1,169,820	799,800	762,150	1,326,840	2,793,030	2,063,160	12,402,270
	227,827	–	–	1,140,480	–	545,310	52,501	1,054,490	43,140	1,616,130	3,058,800	1,241,040	8,979,718
Malawi	–	4,695,450	8,449,920	1,169,280	1,634,520	214,500	7,691,970	6,520,260	2,378,520	6,201,000	6,378,960	–	45,119,880
	–	4,694,013	3,579,278	3,693,510	2,198,460	215,100	6,536,307	3,908,910	7,026,480	6,380,730	2,787,740	3,872,160	44,677,588
Mozambique	–	218,880	4,988,160	–	5,331,840	7,064,040	8,731,950	7,469,790	9,138,480	2,343,150	3,475,080	5,174,010	51,130,260
	–	218,880	1,440,000	2,210,320	1,553,430	4,920,990	5,947,290	8,227,470	8,354,970	7,893,410	3,642,044	5,015,515	48,445,899
Rwanda	–	714,240	–	–	–	–	–	300,150	1,356,330	2,041,710	622,170	2,992,140	8,026,740
	–	–	714,240	–	–	–	–	300,150	269,430	1,876,001	622,170	1,124,591	4,906,582
Senegal	–	–	–	443,520	670,080	659,790	355,000	346,110	789,600	220,800	708,650	1,100,060	5,235,530
	–	–	–	–	443,520	455,756	468,776	210,378	486,621	529,672	277,454	344,141	3,216,318
Benin	–	–	1,073,490	215,040	1,002,240	509,100	1,841,190	132,000	2,032,170	750,660	1,687,470	–	9,243,360
	–	–	326,544	812,232	1,002,600	470,749	1,181,091	396,716	1,147,590	918,513	996,065	1,728,499	8,973,553
Ethiopia	–	–	600,000	1,081,000	2,268,000	–	1,787,630	3,610,000	3,000,000	–	–	2,715,000	15,061,630
	–	–	–	1,681,000	648,000	1,596,630	–	1,821,000	3,600,000	1,800,000	1,200,000	2,715,000	15,061,630
Ghana	–	–	1,142,759	–	–	–	2,090,130	849,460	3,698,170	7,438,930	248,340	–	15,467,789
	–	–	–	1,028,000	114,759	–	2,090,130	849,460	3,729,850	1,700,625	3,802,815	1,609,750	14,925,389
Kenya	–	–	1,281,720	7,804,800	6,997,080	6,960,390	9,578,970	4,168,414	13,743,240	2,880,000	4,662,450	3,000,000	58,446,664
	–	–	1,281,720	6,015,360	7,667,310	3,268,260	2,410,810	10,422,328	6,084,137	10,350,990	4,197,750	3,694,260	54,925,445
Liberia	–	496,000	–	1,303,175	1,631,625	4,444,875	2,375,525	2,703,000	1,451,100	2,484,625	2,597,825	2,006,200	20,922,350
	–	–	496,000	1,303,175	1,631,625	1,623,781	2,375,525	1,865,775	1,066,150	1,632,288	1,066,000	5,905,575	18,965,894

Artemisinin-based Combination Treatments Procured and Distributed with PMI Support (continued)

ACTs Procured
ACTs Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1,2]	PMI Year 8 (FY2013)[3]	PMI Year 9 (FY2014)[4]	PMI Year 10 (FY2015)[5]	PMI Year 11 (FY2016)[10]	PMI Year 12 (FY2017)[11]	Cumulative[6]
Madagascar	–	–	–	–	–	100,025	400,000	–	881,000	1,609,900	–	444,800	3,435,725
	–	–	–	–	–	–	84,948	387,035	802,154	673,544	942,516	391,600	3,281,797
Mali	–	–	–	241,720	739,200	1,289,190	2,400,030	2,289,720	1,506,300	2,200,410	3,800,070	–	13,727,440
	–	–	–	241,720	–	1,289,190	900,000	2,274,682	2,923,072	1,088,157	3,800,070	1,200,000	13,716,891
Zambia	–	–	495,360	–	2,390,400	1,688,160	2,721,060	3,379,830	7,054,620	1,850,640	31,080	9,451,080	28,425,270[7]
	–	–	80,640	173,160	2,257,920	1,688,160	2,721,060	3,080,970	6,799,260	1,850,640	606,895	9,451,080	28,072,825
DRC	–	–	–	–	3,780,000	–	7,000,000	2,378,400	9,537,400	16,014,450	7,504,600	–	46,214,850
	–	–	–	–	639,075	855,948	1,007,387	4,344,124	4,041,801	9,459,625	10,788,357	11,321,996	42,362,174
Nigeria	–	–	–	–	–	–	7,201,535	3,584,060	17,955,180	19,304,880	4,346,075	9,411,695	61,803,425
	–	–	–	–	1,043,352[8]	–	1,241,363	3,184,730	7,357,739	17,153,639	15,423,196	6,272,859	51,676,878
Guinea	–	–	–	–	–	1,450,000	754,750	1,401,300	1,201,580	2,976,375	1,299,825	500,040	9,583,870
	–	–	–	–	–	–	915,500	754,725	1,461,581	613,363	1,397,955	1,320,310	6,463,434
Zimbabwe	–	–	–	–	–	744,120	969,150	581,460	2,251,940	–	517,215	–	5,063,885
	–	–	–	–	–	–	894,576	458,662	1,285,040	1,087,061	733,886	345,244	4,804,469
Mekong	–	–	–	–	–	–	68,070	102,060	64,060	58,140	9,985	–	302,315
	–	–	–	–	–	–	–	17,415	–	27,463	–	–	44,878
Burma	–	–	–	–	–	–	–	–	24,540	11,130	13,200	–	48,870
	–	–	–	–	–	–	–	–	25,040	15,660	10,743	19,717	71,160[9]
Cambodia	–	–	–	–	–	–	–	–	–	140,190	–	–	140,190
	–	–	–	–	–	–	–	–	–	–	–	–	0
TOTAL	**1,229,550**	**8,851,820**	**22,354,139**	**21,833,155**	**41,048,295**	**38,588,220**	**72,768,490**	**48,433,634**	**81,221,610**	**73,683,750**	**44,895,485**	**41,959,575**	**479,785,173**
	607,987	**7,096,264**	**11,374,241**	**20,790,162**	**27,640,618**	**29,519,524**	**41,090,544**	**48,982,120**	**65,711,355**	**70,987,151**	**59,553,916**	**60,045,857**	**438,691,204**

[1] During FY 2012, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 4,991,250 ACTs were procured and 7,556,410 were distributed.
[2] During FY 2012, PMI also procured 786,305 ACT treatments for emergency stockpile purposes. These will be counted in next year's annual report once they have been allocated to specific countries.
[3] During FY 2013, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 4,289,850 ACTs were procured and 1,830,475 were distributed.
[4] During FY 2014, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 10,807,900 ACTs were procured and 5,648,425 were distributed.
[5] During FY 2015, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 5,900,700 ACTs were procured and 9,571,725 were distributed.
[6] The cumulative column takes into account the 3-month overlap between Year 5 (covering the 2010 calendar year) and Year 6 (covering the 2011 fiscal year).
[7] In addition to these ACTs procured with USG funds, PMI procured the following quantities of ACTs for Zambia with a donation from DFID: 1,599,360 ACTs in 2010, 3,805,560 ACTs in FY 2011, 4,686,750 ACTs in FY 2012, 4,432,140 ACTs in FY 2013, 1,000,200 ACTs in FY 2014, and 2,972,100 ACTs in FY 2016.
[8] These ACTs were distributed in 2010 with USG funds but were procured before Nigeria became a PMI focus country.
[9] The number of ACTs distributed exceeds ACTs procured because these distributed ACTs include some which were reported as procured under the Mekong row in previous years.
[10] During FY 2016, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 8,655,325 ACTs were procured and 9,521,238 were distributed.
[11] During FY 2017, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 12,026,910 ACTs were procured and 1,676,350 were distributed.

Artemisinin-based Combination Treatments Procured by other Donors and Distributed with PMI Support

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)	PMI Year 10 (FY2015)	PMI Year 11 (FY2016)	PMI Year 12 (FY2017)	Cumulative
Uganda	–	8,709,140	112,330	4,459,918	–	–	–	–	–	–	–	–	13,281,388
Malawi	–	–	–	2,056,170	–	5,015,490	–	–	–	–	–	2,199,630	8,979,210
Mozambique	–	–	–	1,423,350	2,857,590	1,428,630	–	–	–	–	931,044	1,752,735	7,634,849
Rwanda	–	–	–	396,625	282,494	114,471	966	–	–	–	–	–	794,556
Senegal	–	–	–	–	–	–	275,000	–	–	–	–	–	275,000
Madagascar	–	–	–	519,338	396,470	124,118	674,273	–	–	–	–	104,831	1,804,410
Mali	–	–	–	–	–	–	–	184,319	–	–	–	–	184,319
Nigeria	–	–	–	–	–	311,100	–	–	3,918,793	1,258,947	1,230,316	323,295	7,042,451
Guinea	–	–	–	–	–	–	–	938,480	–	–	–	532,270	1,470,750
Zimbabwe	–	–	–	–	–	–	–	344,160	–	–	843,651	–	1,187,811
Cambodia	–	–	–	–	–	–	–	–	–	–	–	57,728	57,728
Ghana	–	–	–	–	–	–	–	–	–	–	–	13,746	13,746
DRC	–	–	–	–	–	–	–	–	–	–	–	527,523	527,523
TOTAL	**–**	**8,709,140**	**112,330**	**8,855,401**	**3,536,554**	**6,993,809**	**950,239**	**1,466,959**	**3,918,793**	**1,258,947**	**3,005,011**	**5,511,758**	**43,253,741**

[1] The cumulative column takes into account the 3-month overlap between Year 5 (covering the 2010 calendar year) and Year 6 (covering the 2011 fiscal year).

Health Workers Trained in ACT use with PMI Support[1]

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[2]	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)[3]	PMI Year 10 (FY2015)[4]	PMI Year 11 (FY2016)[5]	PMI Year 12 (FY2017)[6]
Angola	1,283	290	1,357	2,784	2,868	238	1,489	2,492	3,164	3,299	2,868	1,083
Tanzania	4,217	1,011	1,767	1,018	1,162	1,520	2,218	162	3,493	2,080	264	899
Uganda	2,844	12,637	9,159	1,356	–	485	5,651	767	2,047	8,857	1,077	1,597
Malawi	–	–	5,315	809	1,813	378	204	540	1,124	6,604	268	309
Mozambique	–	174	422	16,768	219	–	2,383	1,190	–	32	253	1,472
Rwanda	–	5,127	8,565	7,672	7,180	8,911	3,098	1,707	5,898	5,314	2,488	2,453
Senegal	–	1,020	4,776	1,162	4,158	2,375	1,196	2,124	4,098	1,474	2,567	1,177
Benin	–	605	–	762	1,178	1,207	678	907	2,610	1,641	291	645
Ethiopia	–	–	2,786	–	1,740	7,666	8,694	4,560	6,570	3,179	725	809
Ghana	–	–	368	1,144	2,952	7,954	1,318	10,278	19,619	13,151	12,281	14,012
Kenya	–	–	–	4,747	390	–	–	–	–	–	–	–
Liberia	–	–	595	746	1,008	498	289	60	97	220	–	829
Madagascar	–	–	–	1,696	4,575	8,039	580	4,582	9,194	7,139	4,112	6,469
Mali	–	–	101	412	1,283	1,957	1,260	328	765	149	5,876	586
Zambia	–	–	186	197	–	493	542	655	503	80	255	701
DRC	–	–	–	–	874	462	1,525	5,097	3,811	3,884	5,051	729
Nigeria	–	–	–	–	5,058	–	5,608	24,195	14,923	6,866	8,176	–
Guinea	–	–	–	–	–	–	707	20	1,675	2,064	1,967	2,077
Zimbabwe	–	–	–	–	–	–	2,066	86	2,984	8,803	1,322	1,549
Mekong	–	–	–	–	–	–	291	1,804	103	70	864	–
Burma	–	–	–	–	–	–	–	–	1,790	1,254	876	634
Cambodia	–	–	–	–	–	–	–	–	808	939	46	531
TOTAL	**8,344**	**20,864**	**35,397**	**41,273**	**36,458**	**42,183**	**39,797**	**61,554**	**85,276**	**77,099**	**51,627**	**38,561**

[1] A cumulative count of individual health workers trained is not provided because some health workers have been trained on more than one occasion.
[2] During FY 2012, USAID also provided support for case management activities in Burkina Faso and Burundi; 1,727 health workers were trained in ACT use.
[3] During FY 2014, USAID also provided support for case management activities in Burkina Faso and South Sudan 831 health workers were trained in ACT use.
[4] During FY 2015, USAID also provided support for case management activities in Burkina Faso and Burundi; 959 health workers were trained in ACT use.
[5] During FY 2016, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 1,594 health workers were trained in ACT use.
[6] During FY 2017, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 2,652 health workers were trained in ACT use.

RDTs Procured and Distributed with PMI Support

RDTs Procured
RDTs Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1]	PMI Year 8 (FY2013)[2]	PMI Year 9 (FY2014)[3]	PMI Year 10 (FY2015)[4]	PMI Year 11 (FY2016)[13]	PMI Year 12 (FY2017)[14]	Cumulative[5]
Angola	129,875	375,000	375,000	600,000	832,000	1,637,000	862,150	2,930,000	2,800,000	–	4,550,000	–	14,641,025
	–	101,000	380,875	975,000	282,000	1,637,500	1,762,150	900,000	2,030,000	–	3,125,000	2,850,000	14,043,525
Tanzania	875,000	550,200	1,075,000	950,000	292,000	117,000	212,500	364,500	6,623,800	6,421,325	1,949,100	2,288,325	21,718,750
	250,000	1,025,200	425,000	989,500	661,900	194,574	212,500[6]	202,000	3,254,475	8,071,475	1,949,100	2,288,325	19,459,549
Uganda	–	–	–	–	1,309,000	1,346,650	2,061,000	525,000	–	1,195,850	2,058,475	947,600	8,118,575
	–	–	–	–	34,000	296,985	–	500,000	–	–	1,807,925	1,725,300	4,328,280
Malawi	–	–	–	–	–	–	2,966,675	9,227,000	4,000,000	11,700,000	–	4,100,000	31,993,675
	–	–	–	–	–	–	2,966,675	5,227,825	4,476,150	8,552,450	3,154,150	4,099,525	28,476,775
Mozambique	–	–	–	–	–	5,000,000	1,000,000	9,956,375	14,450,000	6,000,000	8,000,000	8,000,000	52,406,375
	–	–	–	–	–	3,452,550	1,000,000	9,956,375	8,700,000	11,449,405	8,421,991	7,047,741	50,028,062
Rwanda	–	–	–	–	200,010	200,010	500,010	500,010	1,162,020	–	–	–	2,362,050
	–	–	–	–	–	109,991	349,219[7]	240,000	500,010	489,810	672,190	–	2,361,220
Senegal	–	–	–	–	–	–	700,000	300,000	–	2,555,750	3,200,000	2,000,000	8,755,750
	–	–	–	–	–	–	700,000[8]	300,000	–	1,890,500	520,845	1,552,322	4,963,667
Benin	–	178,400	–	–	600,000	600,000	980,000	1,000,000	1,500,000	1,700,000	2,000,000	–	7,958,400
	–	73,815	104,585	–	–	600,000	490,000	1,190,000	961,825	826,875	980,650	115,097	5,342,847
Ethiopia	–	–	–	1,680,000	1,560,000	–	–	–	–	–	3,000,000	3,000,000	9,240,000
	–	–	–	820,000	2,420,000	–	–	–	–	–	3,000,000	3,000,000	9,240,000
Ghana	–	–	–	74,000	725,600	725,600	3,048,000	–	5,700,000	1,160,000	10,200,000	2,500,000	23,407,600
	–	–	–	–	–	725,600	1,000,000	–[9]	3,000,000	1,160,000	6,358,375	5,013,350	17,257,325
Kenya	–	–	–	–	547,800	547,800	1,745,120	6,547,680	100,000	3,400,000	11,300,000	–	23,640,600
	–	–	–	–	–	292,040	667,960	3,298,320	4,500,000	500,000	6,135,950	7,985,100	23,379,370
Liberia	–	–	–	850,000	1,200,000	–	1,900,000	2,500,000	–	1,750,000	2,257,000	2,400,000	12,857,000
	–	–	–	850,000	1,116,275	83,725	–	1,506,450	1,846,525	1,103,575	1,085,000	485,253	8,076,803
Madagascar	–	–	–	–	270,000	1,500,000	778,000	1,000,000	2,780,000	2,000,000	1,900,000	200,000	10,428,000
	–	–	–	–	202,031	248,329	1,491,589	–	2,780,000	2,998,380	1,925,925	156,900	9,693,674
Mali	–	–	–	30,000	500,000	500,000	1,000,000	3,000,000	2,000,000	2,000,000	3,000,000	3,000,000	15,030,000
	–	–	–	–	530,000	500,000	600,000	1,253,800	3,832,475	1,753,840	3,559,885	3,000,000	15,030,000
Zambia	–	979,000	1,639,000	2,070,000	4,804,500	2,337,450	3,056,250	3,530,000	4,000,000	2,172,500	0	7,210,875	29,545,475[10]
	–	–	979,000	1,250,000	2,550,400	2,337,450	999,975	5,586,250	4,000,000	2,172,500	627,233	7,210,875	25,459,583

RDTs Procured and Distributed with PMI Support (continued)

RDTs Procured
RDTs Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1]	PMI Year 8 (FY2013)[2]	PMI Year 9 (FY2014)[3]	PMI Year 10 (FY2015)[4]	PMI Year 11 (FY2016)[13]	PMI Year 12 (FY2017)[14]	Cumulative[5]
DRC	–	–	–	–	500,000	–	3,500,000	4,000,000	8,000,000	2,875,000	15,000,000	–	33,875,000
	–	–	–	–	–	400,425	428,175	1,710,676	1,739,736	5,874,078	8,256,889	8,759,352	27,169,331
Nigeria	–	–	–	–	–	–	2,700,000	4,000,000	2,500,000	6,718,000	5,000,000	6,681,200	27,599,200
	–	–	–	–	–	–	428,400	1,084,425	2,870,612	6,747,289	9,381,075	2,372,734	22,884,535
Guinea	–	–	–	–	–	–	100,000	1,000,000	1,520,000	–	2,865,000	–	5,485,000
	–	–	–	–	–	–	100,000	1,000,000	1,520,000	—[12]	1,124,135	1,094,125	4,838,260
Zimbabwe	–	–	–	–	–	–	1,599,700	1,135,375	2,266,000	2,338,000	836,000	1,398,300	9,573,375
	–	–	–	–	–	–	702,425	931,925	1,255,225	2,339,375	3,011,800	601,075	8,841,825
Mekong	–	–	–	–	–	61,000	248,500	424,000	378,700	–	–	10,000	1,122,200
	–	–	–	–	–	61,000	5,250	120,126	152,075	160,200	–	–	498,651
Burma	–	–	–	–	–	–	–	–	50,000	291,800	240,000	–	581,800
	–	–	–	–	–	–	–	–	232,100	264,775	105,900	276,775	879,550[11]
Cambodia	–	–	–	–	–	–	–	–	–	285,500	0	0	285,500
	–	–	–	–	–	–	–	–	10,850	285,500	7,500	0	303,850
TOTAL	**1,004,875**	**2,082,600**	**3,089,000**	**6,254,000**	**13,340,910**	**14,572,510**	**28,957,905**	**51,939,940**	**59,830,520**	**54,563,725**	**77,355,575**	**43,736,300**	**350,625,350**
	250,000	**1,200,015**	**1,889,460**	**4,884,500**	**7,796,606**	**10,940,169**	**13,904,318**	**35,008,172**	**47,662,058**	**56,640,027**	**65,211,518**	**59,633,849**	**302,556,682**

[1] During FY 2012, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 1,600,000 RDTs were procured and 900,000 were distributed.
[2] During FY 2013, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 7,741,300 RDTs were procured and 3,000,000 were distributed.
[3] During FY 2014, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 9,941,300 RDTs were procured and 3,000,000 were distributed.
[4] During FY 2015, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 7,835,000 RDTs were procured and 8,822,600 were distributed.
[5] The cumulative column takes into account the 3-month overlap between Year 5 (covering the 2010 calendar year) and Year 6 (covering the 2011 fiscal year).
[6] During FY 2012, an additional 259,200 RDTs were distributed in Tanzania. These RDTs were originally procured for Rwanda and transferred to Tanzania to avoid expiry.
[7] Of the 500,010 RDTs Rwanda procured in FY 2012, 259,200 were relocated to Tanzania to avoid expiry. These RDTs are included in this total but were distributed in Tanzania.
[8] In FY 2012, an additional 250,000 RDTs procured by other donors were distributed with USG support in Senegal.
[9] In FY 2013, 2,800,000 RDTs procured by the Global Fund were distributed with USG support in Ghana.
[10] In addition to these RDTs procured with USG funds, PMI procured the following quantities of RDTs for Zambia with a donation from DFID:1,350,000 RDTs in FY 2011, 2,000,000 RDTs in FY 2013, 9,500,000 RDTs in FY 2014, 2,000,000 RDTs in FY 2015, and 450,000 RDTs in FY 2016.
[11] The number of RDTs distributed exceeds RDTs procured because these distributed RDTs include some which were reported as procured under the Mekong row in previous years.
[12] During FY 2015 558,525 RDTs procured by Global Fund were distributed using USG funds to PMI zones in Guinea that had a need.
[13] During FY 2016, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 5,760,300 RDTs were procured and 4,221,538 were distributed.
[14] During FY 2017, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 12,677,800 RDTs were procured and 10,912,550 were distributed.

Health Workers Trained in Malaria Diagnosis with PMI Support[1]

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[2]	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)[3]	PMI Year 10 (FY2015)[4]	PMI Year 11 (FY2016)[5]	PMI Year 12 (FY2017)[6]
Angola	–	374	1,356	691	1,022	1,028	225	487	1,092	1,235	1,247	1,437
Tanzania	–	–	–	247	388	338	83	159	1,256	3,375	3,471	2,207
Uganda	–	–	100	1,115	941	1,651	427	1,281	893	8,917	1,077	2,033
Malawi	–	–	–	–	307	549	1,039	579	1,063	6,664	348	110
Mozambique	–	391	–	136	–	–	–	8	0	44	956	684
Rwanda	–	–	–	–	29	–	172	556	5,898	–	–	2,453
Senegal	–	–	90	19	4,158	2,920	1,239	2,212	835	1,555	1,853	1,221
Benin	–	605	–	24	583	232	884	967	2,546	1,034	209	667
Ethiopia	–	–	–	–	–	7,666	9,068	563	738	789	1,428	–
Ghana	–	–	–	46	4,511	8,680	2,540	1,292	19,864	4,655	15,088	15,118
Kenya	–	–	77	–	485	210	408	3,257	346	110	709	149
Liberia	–	–	–	22	906	39	–	–	0	–	–	829
Madagascar	–	–	–	108	2,701	8,932	535	4,620	9,194	7,246	4,142	4,794
Mali	–	–	40	412	1,276	1,957	1,292	375	765	138	1,480	586
Zambia	–	–	–	36	–	37	2,017	719	524	82	352	858
DRC	–	–	–	–	28	499	1,762	5,157	4,121	4,383	5,271	751
Nigeria	–	–	–	–	–	2	3,555	1,919	1,629	2,262	1,713	–
Guinea	–	–	–	–	–	–	835	20	1,821	459	1,658	2,123
Zimbabwe	–	–	–	–	–	–	2,066	86	2,984	8,803	1,322	1,549
Mekong	–	–	–	–	–	–	63	1,975	103	114	109	–
Burma	–	–	–	–	–	–	–	–	1,887	1,297	876	634
Cambodia		–	–	–	–	–	–	–	865	988	64	562
TOTAL	**–**	**1,370**	**1,663**	**2,856**	**17,335**	**34,740**	**28,210**	**26,232**	**58,424**	**54,150**	**43,373**	**38,765**

[1] A cumulative count of individual health workers trained is not provided because some health workers have been trained on more than one occasion.
[2] During FY 2012, USAID also provided support for case management activities in Burkina Faso and Burundi; 1,789 health workers were trained in malaria diagnostics.
[3] During FY 2014, USAID also provided support for case management activities in Burkina Faso and South Sudan; 760 health workers were trained in malaria diagnostics.
[4] During FY 2015, USAID also provided support for case management activities in Burkina Faso, Burundi and South Sudan; 1,114 health workers were trained in malaria diagnostics.
[5] During FY 2016, USAID also provided support for case management activities in Burkina Faso and Burundi; 1,325 health workers were trained in malaria diagnostics.
[6] During FY 2017, USAID also provided support for case management activities in Burkina Faso, Burundi, and South Sudan; 2,372 health workers were trained in malaria diagnostics.

Residents Protected by PMI-supported Indoor Residual Spraying (IRS)[1]

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)[2]	PMI Year 7 (FY2012)[3]	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)	PMI Year 10 (FY2015)	PMI Year 11 (FY2016)	PMI Year 12 (FY2017)
Angola	590,398	612,776	992,856	485,974	650,782	650,782	689,668	676,090	419,353	57,380	–	–
Tanzania	1,018,156	1,279,960	1,569,071	2,087,062	4,861,179	4,502,814	7,107,010	4,429,410	3,020,451	2,397,021	2,138,536	2,568,522
Uganda	488,502	1,865,956	2,211,388	2,262,578	2,794,839	2,839,173	2,543,983	2,581,839	2,565,899	3,086,789[5]	3,738,129[7]	4,227,236
Malawi	–	126,126	106,450	299,744	364,349	364,349	321,919	–	–	–	–	–
Mozambique	–	2,593,949	1,457,142	2,263,409	2,945,721	2,945,721	2,825,648	2,716,176	2,181,896	2,327,815	1,631,058	1,929,654
Rwanda	–	720,764	885,957	1,329,340	1,365,949	1,571,625	1,025,181	990,380	705,048	1,248,678	812,714	919,735
Senegal	–	678,971	645,346	661,814	959,727	887,315	1,095,093	690,029	708,999	514,833	496,728	619,578
Benin	–	–	521,738	512,491	636,448	426,232	652,777	694,729	789,883	802,597	858,113	1,227,536
Ethiopia	–	3,890,000	5,921,906	6,484,297	2,064,389	2,920,469	1,506,273	1,629,958	1,647,099	1,665,997	1,688,745	1,877,154
Ghana	–	–	601,973	708,103	849,620	926,699	941,240	534,060	570,572	553,954	570,871	840,438
Kenya	–	3,459,207	3,061,967	1,435,272	1,892,725	1,832,090	2,435,836	—[4]	–	–	–	906,388
Liberia	–	–	–	163,149	420,532	827,404	876,974	367,930	–	–	–	–
Madagascar	–	–	2,561,034	1,274,809	2,895,058	2,895,058	2,585,672	1,781,981	1,588,138	1,766,806	1,257,036	2,008,963
Mali	–	–	420,580	497,122	440,815	697,512	762,146	850,104	836,568	494,205	788,922	823,201
Zambia	–	3,600,000	4,200,000	6,500,000	4,056,930	4,056,930	4,581,465	2,347,545	1,805,174	1,478,598[6]	1,695,921	2,626,718
Nigeria	–	–	–	–	–	–	346,115	346,798	–	–	–	–
Zimbabwe	–	–	–	–	–	–	–	1,164,586	1,431,643	334,746	365,425	550,475
TOTAL	**2,097,056**	**18,827,709**	**25,157,408**	**26,965,164**	**27,199,063**	**28,344,173**	**30,297,000**	**21,801,615**	**18,270,723**	**16,729,419**	**16,042,198**	**21,125,598**

[1] A cumulative count of the number of people protected is not provided because many areas have been sprayed on more than one occasion.
[2] Angola, Malawi, Mozambique, Madagascar, and Zambia implemented spray rounds during the first quarter of FY 2011 and these activities are therefore also reported in the Year 5 (2010) column.
[3] During FY 2012, USAID also provided support for an IRS campaign in Burkina Faso, which protected 115,538 people.
[4] In FY 2013, PMI did not carry out IRS activities in Kenya due to a policy change in the type of insecticide approved for IRS, which delayed the procurement of the insecticide and thus the timing of the spray operations.
[5] In addition to these IRS activities supported with USG funds, an additional 823,528 people were protected in FY 2015 in Uganda with a donation from DFID.
[6] In addition to these IRS activities supported with USG funds, an additional 522,226 people were protected in FY 2015 in Zambia with a donation from DFID.
[7] In addition to these IRS activities supported with USG funds, an additional 824,825 people were protected in FY 2016 in Uganda with a donation from DFID.

IRS Spray Personnel Trained with PMI Support[1]

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)[2]	PMI Year 7 (FY2012)[3]	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)	PMI Year 10 (FY2015)	PMI Year 11 (FY2016)	PMI Year 12 (FY2017)
Angola	350	582	2,104	585	834	834	0	691	671	187	–	–
Tanzania	536	734	688	2,806	5,890	4,397	10,756	10,046	7,196	5,859	3,562	3,567
Uganda	450	4,062	4,945	4,412	5,171	1,771	541	3,881	3,660	17,89[5]	8,008[7]	6,411
Malawi	–	300	309	462	929	929	885	765	1,140	–	–	–
Mozambique	–	1,190	1,282	1,343	1,996	1,996	1,121	1,128	1,354	1,354	1,746	2,042
Rwanda	–	655	2,091	2,276	2,088	2,357	1,986	1,925	1,501	2,005	1,833	2,203
Senegal	–	275	706	570	1,024	911	1,097	933	933	893	793	989
Benin	–	–	335	347	459	617	825	804	1,642	1,500	1,372	1,959
Ethiopia	–	–	1,198	3,017	4,049	3,855	2,260	2,684	2,886	2,845	2,749	2,392
Ghana	–	–	468	577	572	636	992	669	750	698	694	895
Kenya	–	4,697	1,452	1,719	2,496	2,118	5,921	–[4]	–	–	–	1,101
Liberia	–	–	–	340	480	793	802	292	–	–	–	–
Madagascar	–	–	1,673	851	1,612	1,612	4,634	2,894	834	1,759	1,580	2,203
Mali	–	–	413	424	549	816	872	853	911	582	1,216	985
Zambia	–	1,300	1,413	1,935	2,396	2,396	929	926	822	1,012[6]	1,287	1,918
Nigeria	–	–	–	–	–	_	351	381	–	–	–	–
Zimbabwe	–	–	–	–	–	_	158	–	–	332	351	601
TOTAL	**1,336**	**13,795**	**19,077**	**21,664**	**30,545**	**26,038**	**34,130**	**28,872**	**24,300**	**36,917**	**25,191**	**27,266**

[1] A cumulative count of the number of people trained is not provided because many areas have been sprayed on more than one occasion. Spray personnel are defined as spray operators, supervisors, and ancillary personnel. This definition does not include many people trained to conduct information and community mobilization programs surrounding IRS campaigns.
[2] Angola, Malawi, Mozambique, Madagascar, and Zambia implemented spray rounds during the first quarter of FY 2011 and these activities are therefore also reported in the Year 5 (2010) column.
[3] During FY 2012, USAID also provided support for an IRS campaign in Burkina Faso, which trained 332 people.
[4] In FY 2013, PMI did not carry out IRS activities in Kenya due to a policy change in the type of insecticide approved for IRS, which delayed the procurement of the insecticide and thus the timing of the spray operations.
[5] In addition to these IRS activities supported with USG funds, an additional 4,106 people were trained in FY 2015 in Uganda with a donation from DFID.
[6] In addition to these IRS activities supported with USG funds, an additional 448 people were trained in FY 2015 in Zambia with a donation from DFID.
[7] In addition to these IRS activities supported with USG funds, an additional 2,162 people were trained in FY 2016 in Uganda with a donation from DFID.

Houses Sprayed with PMI Support[1]

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[2]	PMI Year 8 (FY2013)[3]	PMI Year 9 (FY2014)	PMI Year 10 (FY2015)	PMI Year 11 (FY2016)	PMI Year 12 (FY2017)
Angola	107,373	110,826	189,259	102,731	135,856	135,856	145,264	141,782	98,136	14,649	–	–
Tanzania	203,754	247,712	308,058	422,749	889,981	833,269	1,338,953	852,103	573,926	482,144	536,368	664,622
Uganda	103,329	446,117	575,903	567,035	878,875	908,627	823,169	855,698	852,358	824,485[5]	829,335[7]	1,225,644
Malawi	–	26,950	24,764	74,772	97,329	97,329	77,647	–	–	–	–	–
Mozambique	–	586,568	412,923	571,194	618,290	618,290	660,064	536,558	414,232	445,118	337,433	405,597
Rwanda	–	159,063	189,756	295,174	303,659	358,804	236,610	230,573	173,086	304,199	198,970	231,258
Senegal	–	169,743	153,942	176,279	254,559	240,770	306,916	207,116	204,159	130,170	124,757	156,362
Benin	–	–	142,814	156,223	166,910	145,247	210,380	228,951	254,072	252,706	269,179	384,761
Ethiopia	–	778,000	1,793,248	1,935,402	646,870	858,657	547,421	635,528	667,236	704,945	715,541	738,810
Ghana	–	–	254,305	284,856	342,876	354,207	355,278	197,655	205,230	205,935	211,283	304,648
Kenya	–	1,171,073	764,050	517,051	503,707	485,043	643,292	–[4]	–	–	–	212,029
Liberia	–	–	–	20,400	48,375	87,325	99,286	42,708	–	–	–	–
Madagascar	–	–	422,132	216,060	576,320	576,320	502,697	371,391	343,470	373,027	310,426	487,636
Mali	–	–	107,638	126,922	127,273	202,821	205,066	228,985	228,123	133,527	228,672	227,646
Zambia	–	657,695	762,479	1,189,676	1,102,338	1,102,338	916,293	460,303	432,398	311,204[6]	358,256	559,550
Nigeria	–	–	–	–	–	–	58,704	62,592	–	–	–	–
Zimbabwe	–	–	–	–	–	–	–	501,613	622,299	147,949	162,127	229,377
TOTAL	**414,456**	**4,353,747**	**6,101,271**	**6,656,524**	**6,693,218**	**7,004,903**	**7,127,040**	**5,553,556**	**5,068,725**	**4,330,058**	**4,282,347**	**5,827,940**

[1] A cumulative count of the number of houses sprayed is not provided because many areas have been sprayed on more than one occasion.
[2] Angola, Malawi, Mozambique, Madagascar, and Zambia implemented spray rounds during the first quarter of FY 2011 and these activities are therefore also reported in the Year 5 (2010) column.
[3] During FY 2012, USAID also provided support for an IRS campaign in Burkina Faso, which sprayed 36,870 houses.
[4] In FY 2013, PMI did not carry out IRS activities in Kenya due to a policy change in the type of insecticide approved for IRS, which delayed the procurement of the insecticide and thus the timing of the spray operations.
[5] In addition to these IRS activities supported with USG funds, an additional 301,888 houses were sprayed in FY 2015 in Uganda with a donation from DFID.
[6] In addition to these IRS activities supported with USG funds, an additional 98,340 houses were sprayed in FY 2015 in Zambia with a donation from DFID.
[7] In addition to these IRS activities supported with USG funds, an additional 267,039 houses were sprayed in FY 2016 in Uganda with a donation from DFID.

Insecticide-treated Nets (ITNs) Procured and Distributed with PMI Support

ITNs Procured
ITNs Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1]	PMI Year 8 (FY2013)[2]	PMI Year 9 (FY2014)[3]	PMI Year 10 (FY2015)[4]	PMI Year 11 (FY2016)[5]	PMI Year 12 (FY2017)[6]	Cumulative[7]
Angola	540,949	294,200	734,198	395,748	1,353,298	1,011,800	727,700	1,265,000	600,000	2,500,000	3,400,000	0	11,811,093
	540,949	–	339,440	446,348	294,169	630,000	207,000	798,000	894,529	1,015,457	1,739,431	2,100,000	9,005,323
Tanzania	130,000	–	143,560	1,468,966	623,441	–	697,201	1,245,097	550,000	2,710,920	2,210,754	2,579,920	12,359,859
	130,000	–	113,560	1,498,966	623,441	–	697,201	1,245,097	500,000	494,407	1,488,894	2,170,727	8,962,293
Uganda	376,444	1,132,532	480,000	765,940	1,009,000	709,000	1,200,000	5,000,000	1,752,577[8]	2,427,720[9]	–	1,000,000	15,144,213
	305,305	683,777	999,894	651,203	294,139	221,325	225,890	956,571	114,930	747,320	658,273	1,292,334	7,147,784
Malawi	–	1,039,400	849,578	1,791,506	850,000	1,659,700	1,261,285	521,864	900,000	800,000	607,500	802,400	11,083,233
	–	211,995	849,578	851,436	457,822	1,142,938	1,768,951	1,011,915	477,261	527,776	930,826	492,020	8,554,248
Mozambique	–	786,000	720,000	1,450,000	500,000	1,200,000	1,200,000	1,200,000	1,150,000	1,565,000	2,154,700	1,548,550	13,474,250
	–	565,000	842,802	930,000	500,000	1,494,277	1,200,000	1,328,379	1,200,000	1,570,875	1,268,500	1,564,950	12,357,620
Rwanda	–	–	550,000	912,400	100,000	310,000	1,000,500	–	1,400,000	375,000	1,000,000	0	5,647,900
	–	–	–	500,000	962,400	–	806,100	604,400	–	1,400,000	375,000	948,676	5,596,576
Senegal	–	200,000	790,000	408,000	1,025,000	2,880,000	500,000	1,362,550	1,218,900	1,003,600	1,465,000	1,200,000	12,053,050
	–	196,872	792,951	380,000	28,000	1,546,617	1,614,563	540,980	561,364	498,286	2,440,192	343,427	8,943,252
Benin	–	221,000	385,697	875,000	634,000	905,000	510,000	1,420,000	1,420,000	800,000	730,000	801,800	8,702,497
	–	215,627	45,840	879,415	315,799	699,300	360,000	429,000	1,420,000	800,000	736,851	750,000	6,651,832
Ethiopia	–	102,145	22,284	1,559,500	1,845,200	1,845,200	2,540,000	5,700,000	4,300,000	3,500,000	–	7,335,850	26,904,979
	–	102,145	22,284	559,500	1,000,000	1,845,200	2,510,746	3,600,000	3,560,624	3,552,000	2,816,630	0	19,569,129
Ghana	–	60,023	350,000	955,000	2,304,000	1,994,000	1,600,000	2,600,000	1,340,000	1,160,000	1,600,000	3,000,000	15,489,023
	–	60,023	–	350,000	955,000	2,313,546	1,616,400	1,654,200	2,537,900	1,440,700	1,159,450	1,599,129	13,324,248
Kenya	–	–	60,000	1,240,000	455,000	2,212,500	1,299,195	1,740,000	1,807,500	5,100,000	2,500,000	3,325,000	19,739,195
	–	–	60,000	550,000	690,000	2,589,180	35,090	1,298,259	1,034,262	2,127,033	3,276,520	1,818,276	13,157,820
Liberia	–	197,000	–	430,000	830,000	650,000	–	–	250,000	288,850	320,000	320,000	2,935,850
	–	–	184,000	430,000	480,000	350,000	300,000	–	–	306,550	100,000	267,500	2,418,050
Madagascar	–	–	351,900	1,875,007	1,715,000	–	2,112,000	2,729,750	3,749,450	3,145,250	654,650	2,000,000	18,333,007
	–	–	351,900	1,005,007	2,579,720	2,217,074	–	2,085,671	77,261	154,895	6,669,911	1,320,246	14,244,611
Mali	–	369,800	858,060	600,000	2,110,000	3,037,150	600,000	3,076,850	2,000,000	1,350,000	1,400,000	1,250,000	15,111,860
	–	369,800	258,060	600,000	–	2,040,964	1,510,000	800,000	2,169,004	2,584,748	1,400,000	1,250,000	12,982,576
Zambia	–	808,332	186,550	433,235	1,800,000	1,760,146	833,000	2,728,980	1,090,000[10]	800,000	800,000	900,000	10,740,243[11]
	–	550,017	444,865	433,235	400,000	1,760,146	833,000	–	1,448,055	1,090,000	800,000	1,090,570	8,849,888
DRC	–	–	–	–	824,100	2,000,000	455,000	3,950,000	2,850,000	3,450,000	–	4,856,300	18,385,400
	–	–	–	–	589,553	314,111	2,113,864	142,306	1,284,770	723,003	5,126,434	2,065,881	12,310,957

Insecticide-treated Nets (ITNs) Procured and Distributed with PMI Support (continued)

ITNs Procured
ITNs Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1]	PMI Year 8 (FY2013)[2]	PMI Year 9 (FY2014)[3]	PMI Year 10 (FY2015)[4]	PMI Year 11 (FY2016)[5]	PMI Year 12 (FY2017)[6]	Cumulative[7]
Nigeria	–	–	–	–	614,000	1,000,000	3,315,675	4,200,000	4,000,000	9,732,500	8,700,000	7,900,000	39,462,175
	–	–	–	–	–	614,000	204,635	2,496,730	2,357,149	9,019,215	4,020,487	7,578,921	26,291,137
Guinea	–	–	–	–	–	–	800,000	779,900	180,000	235,000	1,788,500	–	3,783,400
	–	–	–	–	–	–	0	–	1,307,722	167,869	1,184,470	222,387	2,882,448
Zimbabwe	–	–	–	–	–	–	457,000	699,500	888,000	339,500	735,000	890,043	4,009,043
	–	–	–	–	–	–	457,000	699,500	655,680	92,794	1,103,261	35,257	3,043,492
Mekong	–	–	–	–	–	–	298,573	658,000	176,100	200,000	–	160,000	1,492,673
	–	–	–	–	–	–	0	118,059	94,201	207,554	146,230	160,000	726,044
Burma	–	–	–	–	–	–	–	–	100,000	793,500	–	300,000	1,193,500
	–	–	–	–	–	–	–	–	254,560	400,342	433,207	181,445	1,269,554[12]
Cambodia	–	–	–	–	–	–	–	–	130,000	50,000	–	40,000	220,000
	–	–	–	–	–	–	–	–	69,542	122,811	45,742	17,624	255,719[12]
TOTAL	1,047,393	5,210,432	6,481,827	15,160,302	18,592,039	23,174,496	21,407,129	40,877,491	31,852,527	42,326,840	30,066,104	40,209,863	268,076,443
	976,254	2,955,256	5,305,174	10,065,110	10,170,043	19,778,678	16,460,440	19,809,067	22,018,814	29,043,635	37,920,309	27,269,370	198,544,601

[1] During FY 2012, USAID also provided support for ITN activities in Burundi; 530,000 ITNs were procured.
[2] During FY 2013, USAID also provided support for ITN activities in Burundi and Burkina Faso; 1,625,000 ITNs were procured
[3] During FY 2014, USAID also provided support for ITN activities in Burundi, Burkina Faso, and South Sudan; 901,050 ITNs were procured.
[4] During FY 2015, USAID also provided support for ITN activities in Burundi and South Sudan; 1,100,000 ITNs were procured and 1,087,800 were distributed.
[5] During FY 2016, USAID also provided support for ITN activities in Burundi, Burkina Faso, and South Sudan; 1,465,000 ITNs were procured and 1,224,150 were distributed.
[6] During FY 2017, USAID also provided support for ITN activities in Burundi, Burkina Faso, and South Sudan; 1,773,500 were procured and 1,248,250 were distributed.
[7] The cumulative column takes into account the 3-month overlap between Year 5 (covering the 2010 calendar year) and Year 6 (covering the 2011 fiscal year).
[8] In addition to these ITNs procured with USG funds, 1,047,378 ITNs were procured in FY 2014 for Uganda with a donation from DFID.
[9] In addition to these ITNs procured with USG funds, 388,400 ITNs were procured in FY 2015 for Uganda with a donation from DFID.
[10] Of this total, 600,000 ITNs were procured with PEPFAR funds.
[11] In addition to these ITNs procured with USG funds, PMI procured ITNs for Zambia with a donation from DFID: 1 million ITNs were procured in FY 2011, 271,945 ITNs were procured in FY 2013, and 400,000 ITNs were procured in FY 2014.
[12] The number of ITNs distributed exceeds ITNs procured because these distributed ITNs include some which were reported as procured under the Mekong row in previous years.

Insecticide-Treated Nets (ITNs) Procured by other Donors and Distributed with PMI Support

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[1]	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)	PMI Year 10 (FY2015)	PMI Year 11 (FY2016)	PMI Year 12 (FY2017)	Cumulative[2]
Angola	–	–	109,624	17,089	540,851	–	–	484,577	669,503	–	–	293,477	2,115,121
Tanzania	–	–	350,000	117,400	871,680	615,010	1,077,840	–	108,502	170,359	575,175	–	3,885,966
Uganda	–	369,900	–	–	2,431,815	125,017	–	3,503,651	19,959,762	–	1,349,778	–	27,623,923
Malawi	–	–	–	10,700	9,600	20,000	–	–	444,580	1,823,353	–	197,680	2,505,913
Mozambique	–	–	78,000	179,730	–	–	–	–	–	–	–	–	257,730
Senegal	–	–	–	1,875,456	621,481	385,427	–	–	–	–	–	–	2,882,364
Ethiopia	–	–	–	475,000	–	–	–	–	–	–	–	–	475,000
Ghana	–	–	750,000	–	82,600	–	6,788,328	–	–	–	695,061	–	8,315,989
Madagascar	–	–	–	290,636	3,204,647	2,772,824	–	–	–	–	–	465,471	3,960,754
Mali	–	–	–	–	–	–	258,000	800,000	–	800,000	–	–	1,858,000
Zambia	–	–	–	–	–	–	–	–	951,945	–	–	–	951,945
DRC	–	–	–	–	3,966,000	–	–	2,700	75,267	–	163,350	90,000	4,297,317
Nigeria	–	–	–	–	–	15,389,478	1,852,604	749,033	1,229,902	3,225,147	–	–	21,582,055
Guinea	–	–	–	–	–	–	–	–	951,787	950,409	2,369,083	–	4,271,279
Mekong	–	–	–	–	–	–	951,019	348,502	–	–	–	–	1,299,521
Cambodia	–	–	–	–	–	–	–	–	–	650	–	8,355	9,005
TOTAL	–	**369,900**	**1,287,624**	**2,966,011**	**11,728,674**	**19,307,756**	**10,927,791**	**5,888,463**	**24,391,248**	**6,969,918**	**5,152,447**	**1,054,983**	**86,291,882**

[1] During FY 2012, USAID also provided support for distribution of 327,000 Global Fund-procured ITNs in South Sudan.
[2] The cumulative column takes into account the 3-month overlap between Year 5 (covering the 2010 calendar year) and Year 6 (covering the 2011 fiscal year).

SEASONAL MALARIA CHEMOPREVENTION (SMC)

SP-AQ Procured
SP-AQ Distributed

Sulfadoxine-Pyrimethamine/Amodiaquine (SP-AQ) co-blisters for SMC Procured and Distributed with PMI Support

Country	PMI Year 10 (FY2015)	PMI Year 11 (FY2016)	PMI Year 12 (FY2017)[2]	Cumulative
Mali	1,600,000	7,997,850	2,000,000	11,597,850
	1,600,000	7,997,850	2,000,000	11,597,850
Senegal	2,623,375[1]	2,363,650	2,770,000	7,757,025
	2,623,375	2,363,650	2,770,000	7,757,025
TOTAL	**4,223,375**	**10,361,500**	**4,770,000**	**19,354,875**
	4,223,375	**10,361,500**	**4,770,000**	**19,354,875**

[1] In FY 2015, in addition to these SP/AQ co-blisters, 2,430,000 SP tablets, and 7,278,000 AQ tablets were procured for Senegal for seasonal malaria chemoprevention for approximately 625,000 children for the 2015 and 2016 campaigns.
[2] During FY 2017, USAID also provided support for SMC activities in Burkina Faso; 815,771 SP/AQ co-blisters were procured and distributed.

Health Workers Trained in SMC with PMI Support

Country	PMI Year 12 (FY2017)[1]
Mali	4,056
Senegal	5,305
TOTAL	**9,361**

[1] During FY 2017, USAID also provided support for SMC activities in Burkina Faso; 1,728 people were trained in SMC.

Sulfadoxine-Pyrimethamine (SP) Treatments Procured and Distributed with PMI Support[1]

SP Treatments Procured
SP Treatments Distributed

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[5]	PMI Year 8 (FY2013)[6, 7]	PMI Year 9 (FY2014)[8, 9]	PMI Year 10 (FY2015)[11]	PMI Year 11 (FY2016)[12]	PMI Year 12 (FY2017)[13]	Cumulative[14]
Uganda	–	–	18,333	72,666	39,367	26,666	26,667	–	–	–	–	–	171,033
	–	–	2,556	45,780	40,063	26,666	–	–	–	–	–	–	107,270
Malawi	–	–	–	–	–	_	–	2,070,333	2,070,333	–	–	2,000,000	6,140,667
	–	–	–	–	–	_	–	–	282,667	1,496,667	290,667	347,074	2,417,074
Mozambique	–	–	–	–	3,645,052[2]	–	2,000,000	577,000	1,125,000	2,732,950	–	1,433,333	11,513,335
	–	–	–	–	–	3,645,052	–	2,000,000	1,702,000	1,366,667	1,366,283	–	10,080,002
Rwanda	–	583,333	–	–	–	–	–	–	–	–	–	–	583,333
	–	583,333	–	–	–	–	–	–	–	–	–	–	583,333
Benin	–	–	766,666	–	–	405,863	227,550	900,000	505,845	2,099,600	333,350	–	5,238,874
	–	–	–	307,121	150,000	309,546	227,550	227,550	450,200	503,342	769,350	538,453	3,383,112
Ghana	–	–	–	–	25,000	–	–	900,000	900,000	3,000,000	–	–	4,825,000
	–	–	–	–	–	25,000	–	900,000	900,000	–	553,767	1,338,700	3,717,467
Kenya	–	–	–	840,000	–	–	–	–	–	–	1,669,667	–	2,509,667
	–	–	–	840,000	–	–	–	–	–	–	–	850,000	1,690,000
Liberia	–	–	–	78,666	85,333	85,333	79,667	331,667	–	156,667	477,667	–	1,209,666
	–	–	–	78,666	–	71,333	7,667	79,667	273,667	156,667	156,667	352,811	1,177,144
Madagascar	–	–	–	–	–	–	–	–	750,000	–	–	–	750,000
	–	–	–	–	–	–	–	–	–	368,083	266,850	–	634,933
Mali	–	–	1,000,000	–	–	–	531,000	633,333	1,800,000[10]	1,800,000	2,000,000	–	7,764,333
	–	–	–	1,000,000	–	–	531,000	333,333	518,433	1,579,333	1,657,967	666,667	6,286,733
Zambia	–	–	–	666,666	–	3,083,300	–	–	–	–	–	–	3,749,966
	–	–	–	–	666,666	3,083,300[4]	–	–	–	–	–	–	3,749,966
DRC	–	–	–	–	2,470,000[3]	1,100,000	300,000	1,000,000	–	5,850,000	–	3,000,000	12,620,000
	–	–	–	–	1,370,000	–	223,683	563,786	508,904	1,194,699	3,440,605	1,736,839	9,038,515
Nigeria	–	–	–	–	–	–	1,000,000	4,000,000	–	4,000,000	2,000,000	3,329,400	14,329,400
	–	–	–	–	–	–	–	498,200	535,162	3,488,300	1,069,151	1,150,250	6,741,063
Guinea	–	–	–	–	–	–	108,333	280,000	–	621,000	621,000	333,350	1,963,683
	–	–	–	–	–	–	108,057	233,333	25,425	199,333	475,971	352,725	1,394,845
Zimbabwe	–	–	–	–	–	–	792,650	189,267	787,500	927,000	–	156,550	2,852,967
	–	–	–	–	–	–	299,700	388,067	239,233	532,567	717,700	396,050	2,573,317
TOTAL	**–**	**583,333**	**1,784,999**	**1,657,998**	**6,264,752**	**4,701,162**	**5,065,867**	**10,881,600**	**7,938,679**	**21,187,217**	**7,101,683**	**10,252,633**	**76,221,924**
	–	**583,333**	**2,556**	**2,271,567**	**2,226,729**	**7,160,897**	**1,397,657**	**5,223,936**	**5,435,691**	**10,885,657**	**10,764,976**	**7,729,569**	**53,574,773**

[1] Please note that one treatment consists of three tablets. [2] All treatments were procured with non-malaria USG funds. [3] Of this total, 1,370,000 treatments were procured with non-malaria USG funds. [4] In addition to the SP treatments procured with USG funds, 2,250,000 SP treatments were procured in FY 2011 for Zambia with a donation from DFID. [5] In FY 2012, 826,667 SP treatments were procured for Tanzania with funds from the Royal Embassy of the Kingdom of Netherlands. [6] In FY 2013, 2,308,800 SP tablets and 6,926,454 amodiaquine tablets were procured for Senegal for seasonal malaria chemoprevention for approximately 600,000 children. [7] During FY 2013, USAID also procured 1,376,000 SP treatments for South Sudan. [8] In FY 2014, 1,132,800 SP tablets and 1,098,409 amodiaquine tablets were procured for Senegal for seasonal malaria chemoprevention for approximately 625,000 children. [9] During FY 2014, USAID also procured 1,032,000 SP treatments for South Sudan. [10] In FY 2014, in addition to these SP tablets for IPTp, 900,000 SP tablets and 2,700,000 amodiaquine tablets were procured for Mali for seasonal malaria chemoprevention, protecting approximately 104,750 children. [11] During FY 2015, USAID also procured a total of 645,333 SP treatments for Burundi and South Sudan; 899,200 SP treatments were distributed. [12] During FY 2016, USAID also provided support for IPTp activities in South Sudan. In South Sudan, 250,000 SP treatments were distributed. [13] During FY 2017, USAID also provided support for IPTp activities in South Sudan; 500,000 SP treatments were procured. [14] The cumulative column takes into account the 3-month overlap between Year 5 (covering the 2010 calendar year) and Year 6 (covering the 2011 fiscal year).

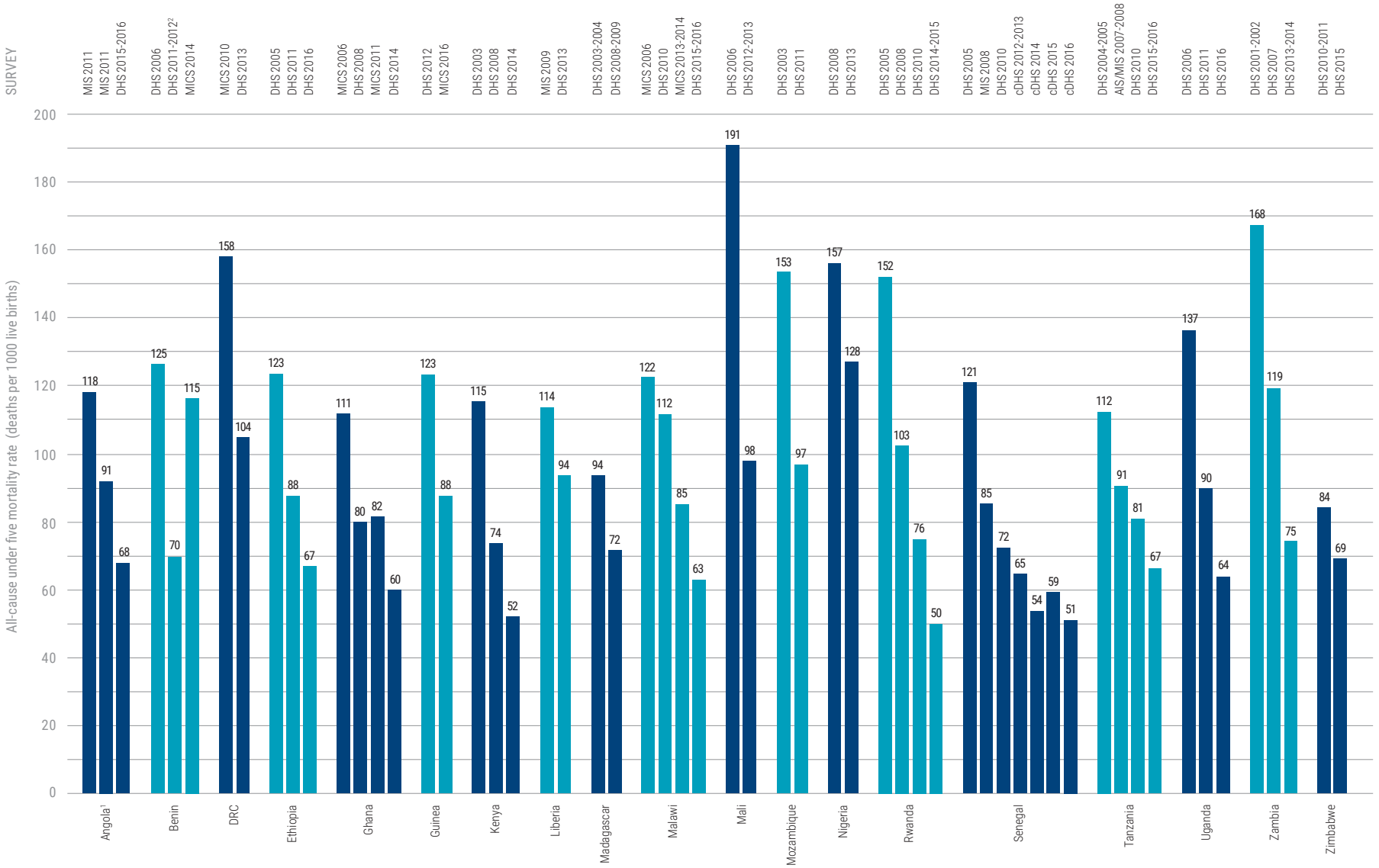
Health Workers Trained in IPTp use with PMI Support[1]

Country	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	PMI Year 4 (2009)	PMI Year 5 (2010)	PMI Year 6 (FY2011)	PMI Year 7 (FY2012)[3]	PMI Year 8 (FY2013)	PMI Year 9 (FY2014)[4]	PMI Year 10 (FY2015)[5]	PMI Year 11 (FY2016)[6]	PMI Year 12 (FY2017)[7]
Angola	1,450	290	1,481	2,554	2,695	1,488	1,308	686	729	646	1,689	374
Tanzania	376	1,158	2,532	2,288	2,157	4,634	1,210	162	2,973	403	319	153
Uganda	168	807	649	724	870	5,341	5,651	874	579	946	993	7,501
Malawi	–	–	2,747	348	181	–	31	134	1,100	6,604	956	–
Mozambique	–	–	–	–	–	–	776	569	158	–	113	430
Rwanda[2]	–	250	436	–	964	225	–	–	–	–	0	–
Senegal	–	43	2,422	865	1,025	1,563	672	512	3,842	309	193	–
Benin	–	605	1,267	146	80	–	–	805	1,970	185	282	47
Ghana	–	–	464	1,170	2,797	7,577	2,665	1,087	4,201	1,676	13,779	14,245
Kenya	–	–	–	5,107	93	1,844	4,950	5,523	4,310	5,895	9,491	6,808
Liberia	–	–	417	750	535	404	289	289	95	225	0	422
Madagascar	–	–	–	–	1,576	3,370	3,808	–	–	–	1,166	2,438
Mali	–	–	142	–	1,173	1,983	270	351	471	142	1,147	532
Zambia	–	–	–	63	–	–	387	350	504	–	114	497
DRC	–	–	–	–	–	443	1,347	3,265	2,210	2,485	4,739	677
Nigeria	–	–	–	–	–	–	3,456	1,466	1,630	3,098	1,641	–
Guinea	–	–	–	–	–	–	313	–	1,052	353	653	726
Zimbabwe	–	–	–	–	–	–	215	86	1,382	8,803	1,322	1,549
TOTAL	**1,994**	**3,153**	**12,557**	**14,015**	**14,146**	**28,872**	**27,348**	**16,159**	**27,206**	**31,770**	**38,597**	**36,399**

[1] A cumulative count of individual health workers trained is not provided because some health workers have been trained on more than one occasion.
[2] Health workers in Rwanda have been trained in focused antenatal care because IPTp is not national policy.
[3] During FY 2012, USAID also provided support for malaria in pregnancy activities in Burkina Faso and South Sudan; 2,077 health workers were trained in IPTp.
[4] During FY 2014, USAID also provided support for malaria in pregnancy activities in Burkina Faso and South Sudan; 992 health workers were trained in IPTp.
[5] During FY 2015, USAID also provided support for malaria in pregnancy activities in Burkina Faso, Burundi and South Sudan; 1,125 health workers were trained in IPTp.
[6] During FY 2016, USAID also provided support for malaria in pregnancy activities in Burkina Faso, Burundi and South Sudan; 1,872 health workers were trained in IPTp.
[7] During FY 2017, USAID also provided support for malaria in pregnancy activities in Burkina Faso, Burundi and South Sudan; 2,559 health workers were trained in IPTp.

APPENDIX 3: MORTALITY RATES AND INTERVENTION COVERAGE IN PMI FOCUS COUNTRIES

Figure 1. All-cause Mortality rates among Children Under Five in PMI Focus Countries

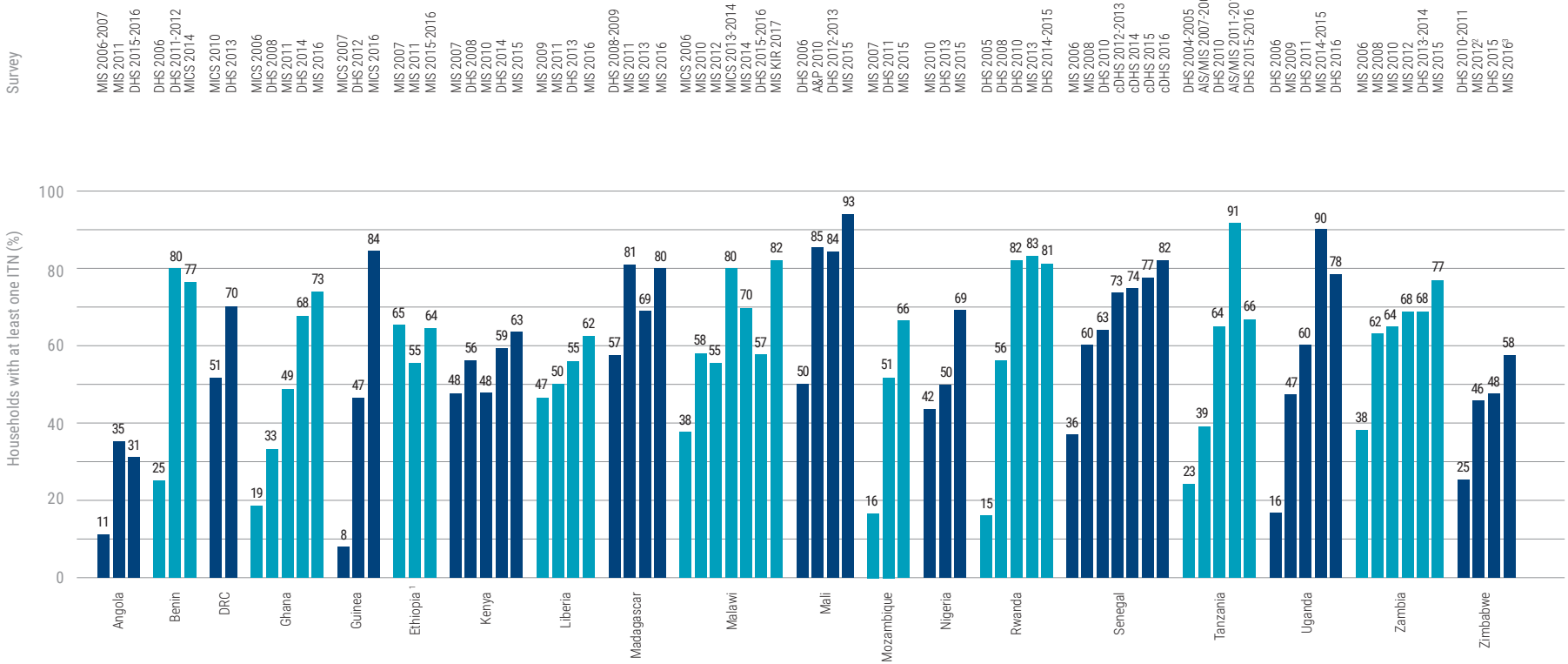


NOTE: Data points included in this figure are drawn from nationwide household surveys that measured all-cause mortality in children under the age of five.

[1] Both under-five mortality estimates for Angola are derived from the MIS 2011. The estimate 118/1,000 is for the period 2001-2006, while 91/1,000 is for the period 2006-2011.

[2] The final report of the DHS 2011-2012 notes that, while mortality among children under five in Benin has declined, there may have been significant under-reporting of neonatal and child deaths by respondents.

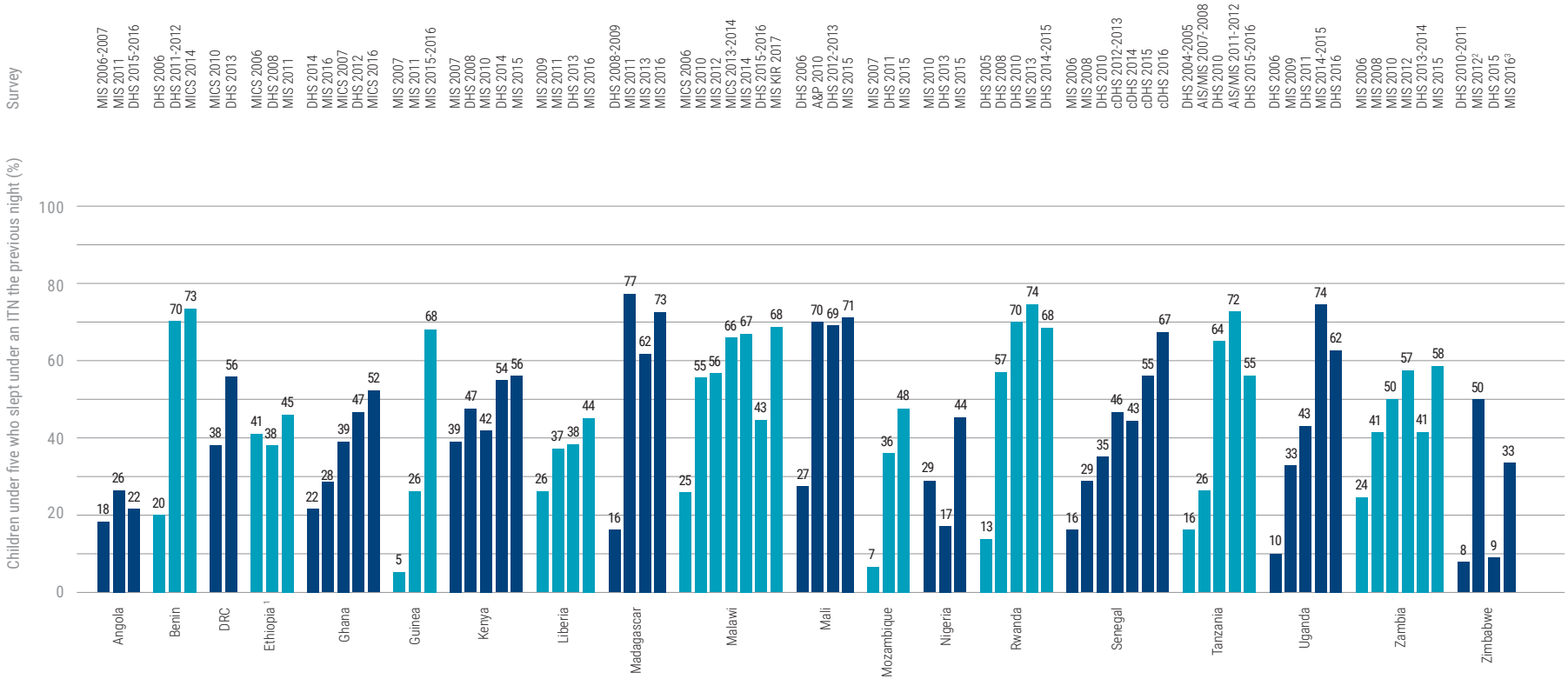
Figure 2. ITN Ownership in PMI Focus Countries



NOTE: Data points included in this figure are drawn from nationwide household surveys that measured ITN ownership, defined as the percentage of households that own at least one ITN.

[1] Ethiopia survey data reflects malarious areas only (areas <2,000m above sea level).
[2] Zimbabwe MIS 2012 conducted in 51 districts. Data on ITNs collected from 30 targeted districts; IRS in 45 targeted districts; and IPTp in 30 targeted districts.
[3] Zimbabwe MIS 2016 conducted in 45 moderate and high risk malaria districts, without disaggregation by type of intervention (ITNs, IRS, IPTp).

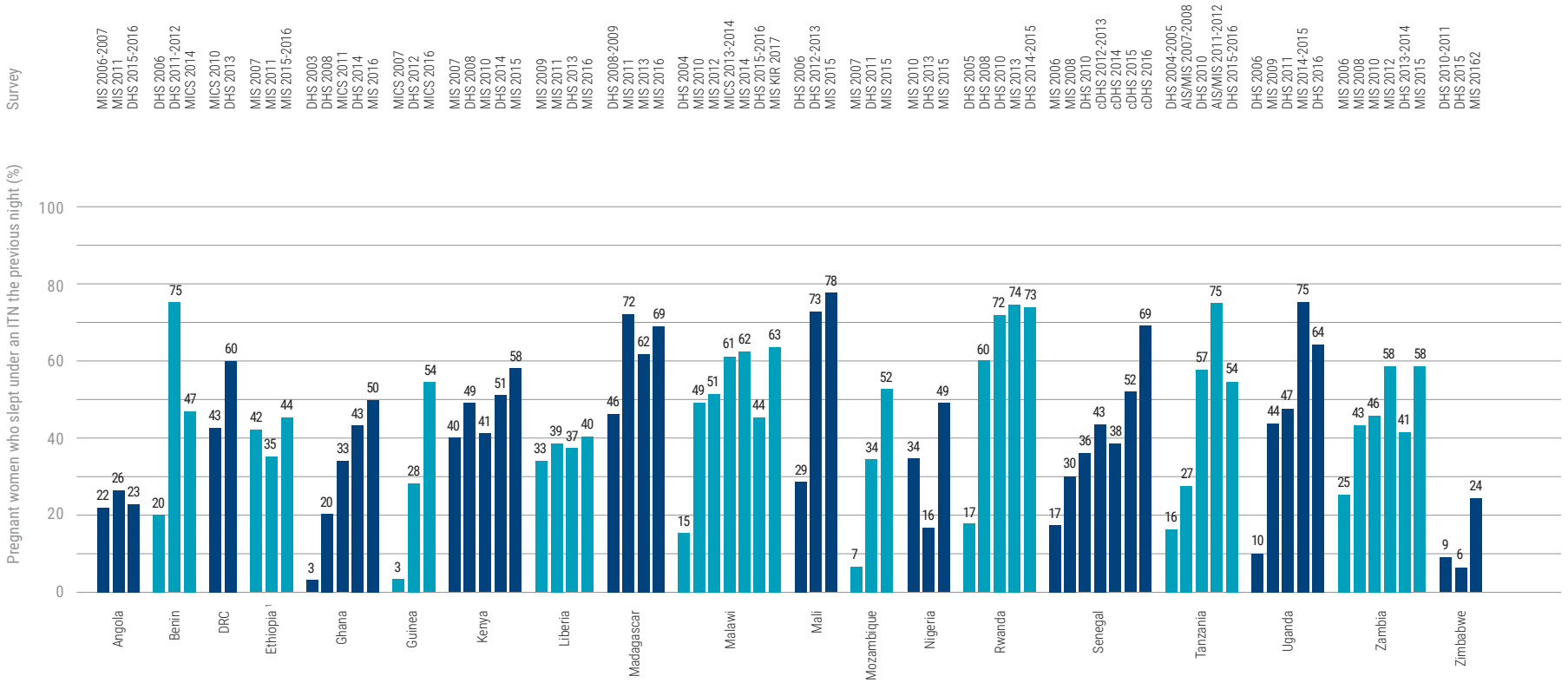
Figure 3. ITN Use among Children Under Five in PMI Focus Countries



NOTE: Data points included in this figure are drawn from nationwide household surveys that measured ITN use among children under five, defined as the percentage of children under five who slept under an ITN the night before the survey.

[1] Ethiopia survey data reflects malarious areas only (areas <2,000m above sea level).
[2] Zimbabwe MIS 2012 conducted in 51 districts. Data on ITNs collected from 30 targeted districts; IRS in 45 targeted districts; and IPTp in 30 targeted districts.
[3] Zimbabwe MIS 2016 conducted in 45 moderate and high risk malaria districts, without disaggregation by type of intervention (ITNs, IRS, IPTp).

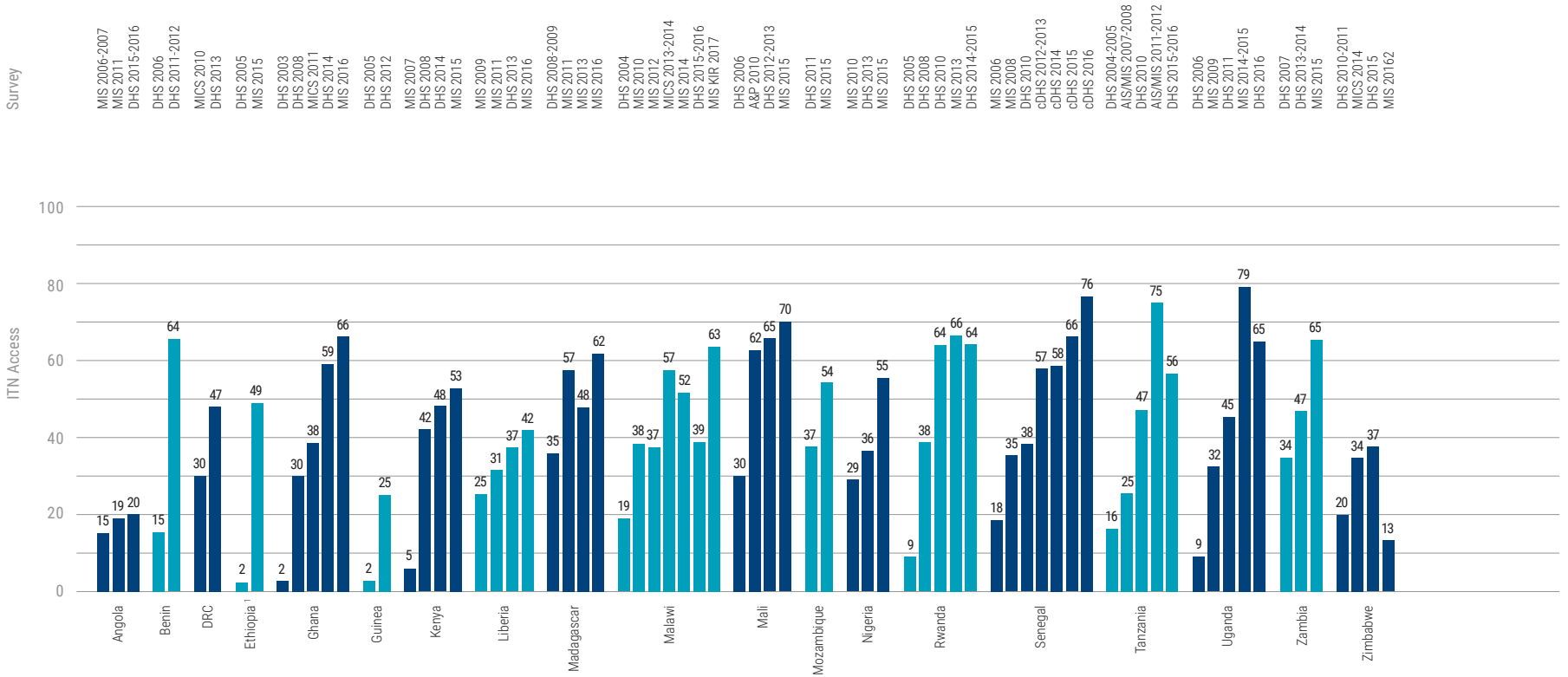
Figure 4. ITN Use Among Pregnant Women in PMI Focus Countries



NOTE: Data points included in this figure are drawn from nationwide household surveys that measured ITN use among pregnant women, defined as the percentage of pregnant women who slept under an ITN the night before the survey.

[1] Ethiopia survey data reflects malarious areas only (areas <2,000m above sea level).
[2] Zimbabwe MIS 2016 conducted in 45 moderate and high risk malaria districts, without disaggregation by type of intervention (ITNs, IRS, IPTp).

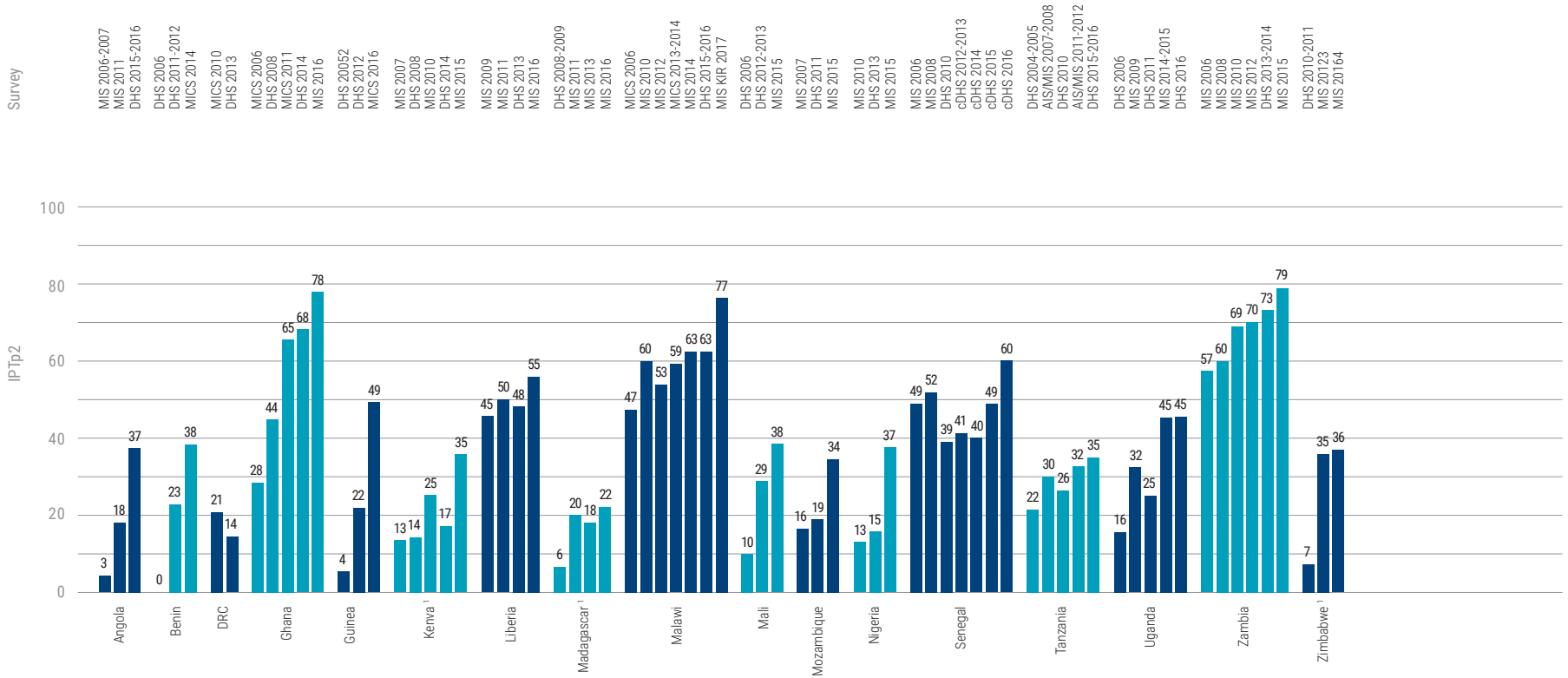
Figure 5. ITN Access in PMI focus countries



NOTE: Data points included in this figure are drawn from nationwide household surveys that measured ITN access, defined by the percentage of the de facto household population who could sleep under an ITN if each ITN in the household were used by up to two individuals.

[1] Ethiopia survey data reflects malarious areas only (areas <2,000m above sea level).
[2] Zimbabwe MIS 2016 conducted in 45 moderate and high risk malaria districts, without disaggregation by type of intervention (ITNs, IRS, IPTp).

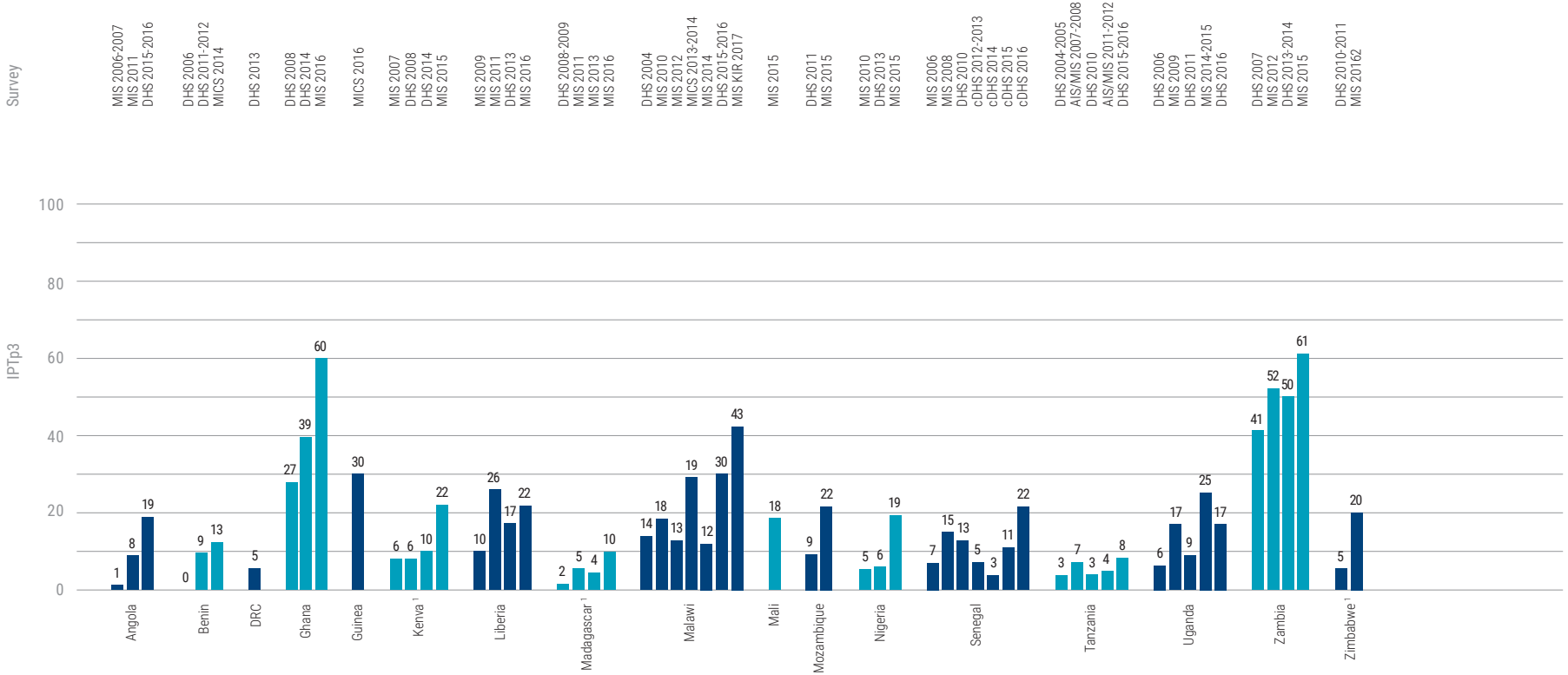
Figure 6. IPTp2 Rates in PMI Focus Countries



NOTE: Data points included in this figure are drawn from nationwide household surveys that measured IPTp2 coverage for pregnant women, defined as the percentage of surveyed women who received at least two doses of SP during their last pregnancy in the past two years, with at least one dose given during an antenatal clinic visit. IPTp is not part of the national policy in Ethiopia and Rwanda.

[1] In Kenya, Madagascar, and Zimbabwe IPTp is implemented sub-nationally due to heterogeneous malaria transmission with areas of low risk. The coverage estimates included here are national and therefore likely underestimate the operational coverage in the areas targeted for this intervention.
[2] Guinea DHS 2005 IPTp2 rate calculated for the five years preceding the survey.
[3] Zimbabwe MIS 2012 conducted in 51 districts. Data on ITNs collected from 30 targeted districts; IRS in 45 targeted districts; and IPTp in 30 targeted districts.
[4] Zimbabwe MIS 2016 conducted in 45 moderate and high risk malaria districts, without disaggregation by type of intervention (ITNs, IRS, IPTp).

Figure 7. IPTp3 Rates in PMI Focus Countries



NOTE: Data points included in this figure are drawn from nationwide household surveys that measured IPTp3 coverage for pregnant women, defined as the percentage of surveyed women who received at least three doses of SP during their last pregnancy in the past two years, with at least one dose given during an antenatal clinic visit. IPTp is not part of the national policy in Ethiopia and Rwanda.

[1] In Kenya, Madagascar, and Zimbabwe IPTp is implemented sub-nationally due to heterogeneous malaria transmission with areas of low risk. The coverage estimates here are national and therefore likely underestimate the operational coverage in the areas targeted for this intervention.

[2] Zimbabwe MIS 2016 conducted in 45 moderate and high risk malaria districts, without disaggregation by type of intervention (ITNs, IRS, IPTp).

Acknowledgments

The Twelfth Annual Report of the U.S. President's Malaria Initiative is dedicated to the staff of host governments, international and local partners, and all U.S. Government staff who have contributed to the achievements described in these pages.

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