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Executive Summary

THE PRESIDENT'S MALARIA INITIATIVE

WORKING WITH COMMUNITIES TO SAVE LIVES IN AFRICA

THIRD ANNUAL REPORT
MARCH 2009

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

THE PRESIDENT'S MALARIA INITIATIVE

"Experience shows that when partners work together, and when malaria control strategies – such as nets, effective medicines, indoor spraying – are employed comprehensively and on a mass scale, extraordinary success can be realized." – Professor Awa-Marie Coll-Seck, Executive Director of the Roll Back Malaria Partnership, February 8, 2008

A community health worker reviews malaria education materials with a young mother in Uganda. PMI works with National Malaria Control Programs to increase attendance at antenatal and child health clinics through health promotion and education activities.

BONNIE GILLESPIE/
VOICES FOR A MALARIA-FREE FUTURE

Executive Summary

Malaria is a preventable and treatable disease. It remains one of the major causes of illness and death among children in Africa, and is estimated to account for 300 million to 500 million illnesses and nearly 1 million deaths each year, with 90 percent of those deaths in children under five years of age. Malaria also places a tremendous burden on national health systems and individual families. Economists estimate that malaria accounts for approximately 40 percent of public health expenditures in Africa and causes an annual loss of $12 billion, or 1.3 percent of the continent's gross domestic product. Malaria and poverty are closely linked; the greatest burden of malaria usually falls on residents of rural areas, where access to health care is limited by cost or distance. As a result, the control of malaria is a major objective of the U.S. foreign assistance program.

The President's Malaria Initiative (PMI) is a historic $1.2 billion, five-year expansion of U.S. Government (USG) resources to reduce the intolerable burden of malaria and help relieve poverty on the African continent. The goal of PMI is to reduce malaria-related deaths by 50 percent in 15 countries with a high burden of malaria by expanding coverage of four highly effective

PMI RESULTS AT A GLANCE[1]

	PMI Year 1 (2006)	PMI Year 2 (2007)	PMI Year 3 (2008)	Cumulative Results
Number of people protected by indoor residual spraying	2,097,056	18,827,709	24,787,363	PMI is supporting IRS in 14 countries[2]
Number of ITNs procured	1,047,393	5,210,432	6,481,827	12,739,652 (8,978,369 distributed)
Number of ITNs procured by other partners and distributed with PMI support	0	369,900	1,287,624	1,657,524
Number of mosquito nets re-treated	505,573	802,740	581,319	1,889,632
Number of ACT treatments procured	1,229,550	11,537,433	15,627,869	28,394,852 (18,139,983 distributed[3])
Number of ACT treatments procured by other partners and distributed with PMI support	0	8,709,140	112,330	8,821,470
Number of health workers trained in use of ACTs	8,344	20,864	35,397	N/A[4]
Number of rapid diagnostic tests procured	1,004,875	2,082,600	2,050,000	5,137,475 (3,459,475 distributed[3])
Number of IPTp treatments procured[5]	0	1,349,999	1,018,333	2,368,332 (585,889 distributed[3])
Number of health workers trained in IPTp	1,994	3,153	14,194	N/A[4]

[1] Results reported in this table are up-to-date as of January 1, 2009, and include all 15 PMI focus countries.
[2] A cumulative total of people protected by indoor residual spraying cannot be calculated without double counting.
[3] Distributed to health facilities.
[4] A cumulative total of health workers trained cannot be calculated without double counting.
[5] A treatment of IPTp consists of three tablets of sulfadoxine-pyrimethamine.

malaria prevention and treatment measures to 85 percent of the most vulnerable populations – pregnant women and children under five years of age.

Progress under PMI in scaling up malaria prevention and control interventions during the last 36 months has been dramatic. The belief that malaria in sub-Saharan Africa really can be controlled is already being substantiated with clear evidence of reductions in malaria burden in many of the PMI focus countries.

PMI Operating Principles

Malaria is a health emergency in Africa, and PMI, together with its partners, is moving quickly and effectively to scale up interventions, build local capacities, and strengthen maternal and child health systems to facilitate expansion of programs nationwide. PMI's management plan stresses:

- Minimizing lead times for procurement of critical commodities and services;
- Flexibility in working with other donors to fill gaps in core malaria commodities and services, such as PMI funding the distribution of insecticide-treated nets (ITNs) procured by other partners; and
- Maintaining a PMI Central Emergency Procurement Fund to help ensure that no PMI focus country experiences a stockout of essential commodities (Page 7).

Achieving Results

In the third year of the Initiative, PMI-supported malaria prevention and treatment measures were expanded across all 15 focus countries. PMI procured more than 6.4 million long-lasting ITNs, most of which have been or will be distributed free of charge to pregnant women and young children. Indoor residual spraying (IRS) activities were also expanded, and a total of 6 million houses were sprayed with synthetic pyrethroids, carbamates, or DDT, helping to protect more than 24.7 million people at risk of malaria. During 2008, 15.6 million artemisinin-based combination therapies (ACTs) were procured in nine focus countries for the treatment of acute malarial illnesses. PMI also supported the expansion of intermittent preventive treatment for pregnant women (IPTp) as part of broader efforts to improve and expand antenatal care services. To build capacity and promote sustainability, PMI also helped strengthen pharmaceutical management, quality assurance of drugs, and health management information systems and trained tens of thousands of health workers and community volunteers. Finally, PMI promoted increased understanding and demand for malaria prevention and treatment interventions by funding a wide range of behavior change communication and education activities across the 15 focus countries.

GILBERT AWEKOFUA/COURTESY OF PHOTOSHARE

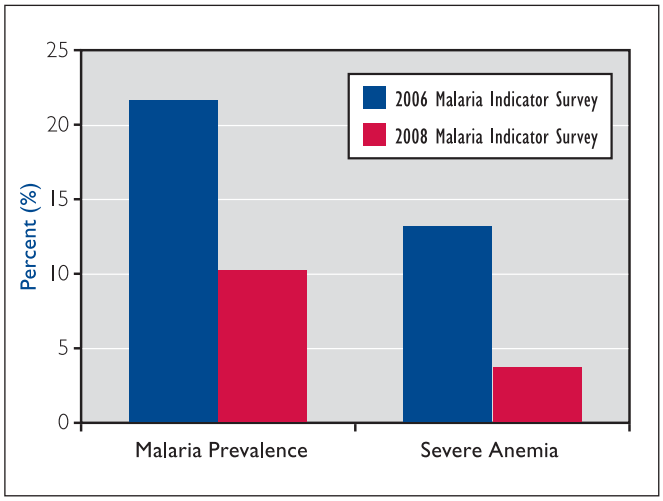
Children in the Adit Internally Displaced Persons Camp in northern Uganda lie under a mosquito net in preparation for bedtime. PMI works with its partners to provide free nets to camp residents to protect them from malaria, one of the leading killers of young children in these camps.

Working with national governments and other donors, PMI has helped to rapidly scale up malaria prevention and treatment measures. As a result, an impact on malaria transmission is already being seen:

- In Zambia, 2006 and 2008 nationwide Malaria Indicator Surveys show that malaria control efforts led by a strong National Malaria Control Program (NMCP) and supported by PMI, the Global Fund, the Bill and Melinda Gates Foundation, the World Bank, and other partners are having a dramatic impact on the prevalence (frequency) of malaria and anemia. Over this three-year period, the prevalence of malaria fell by 53 percent, and the prevalence of severe anemia in children under five years of age, which is closely associated with malaria, fell by 68 percent (Figure 1). In addition, a 2007 nationwide survey showed a 29 percent reduction in all-cause mortality in children under five, to which malaria is a major contributor (Box 1). The USG has been supporting the Zambian national malaria program since 2002, including $7.6 million in FY 2006 and $9 million in PMI jump start funding in FY 2007.

- In Rwanda, support by PMI, the Global Fund, and other donors for a strong malaria control effort, led by the NMCP, is producing striking reductions in the malaria burden. Preliminary results of a 2008 interim nationwide Demographic and Health Survey (DHS) show about a fourfold increase in ownership of one or more ITNs, from 13 to 57 percent, and in the proportion of children under five sleeping under an ITN, from 15 to 58 percent between 2005 and 2008. This increased ITN ownership and use, together with targeted IRS and the rollout of ACTs at both the community and health facility levels, was associated with a fall in the prevalence of malaria of less than 3 percent and an overall reduction in under five childhood mortality of 32 percent between 2005 and 2008 (from 152 to 103 deaths per 1,000 live births) (Box 1). The USG has been supporting malaria control efforts in Rwanda since 2002, including $1.5 million in PMI jump start funding in FY 2006 and $20 million in FY 2007.

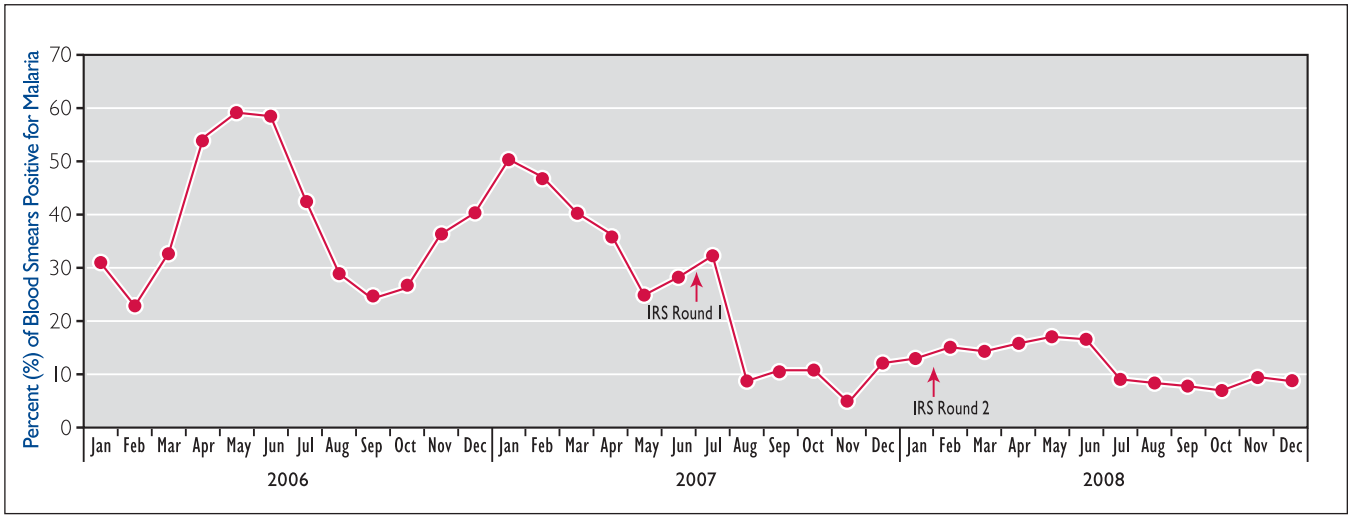
FIGURE 1
Decline in Malaria Prevalence and Severe Anemia in Children Under Five Years of Age, Zambia, 2006–2008



- In Zanzibar, following a rapid scale-up of ITNs, IRS, and ACTs between 2005 and 2007 (supported by PMI, the Global Fund, and other partners), the proportion of blood smears positive for malaria in children under two years of age attending health clinics fell from 22 percent to less than 1 percent. This low level of blood smear positivity was sustained during 2008. Focus has now turned to strengthening malaria case surveillance to allow rapid detection and response to any potential resurgence of malaria cases.

- In Tanzania, during 2008, PMI continued to support IRS in Muleba District, consolidating the gains in malaria control seen during the previous year. A further drop of 55 percent in blood smears positive for malaria in patients of all ages was observed during 2008. In total, between 2006 and 2008, the prevalence of malaria during the peak transmission period of June–July fell by 73 percent (Figure 2).

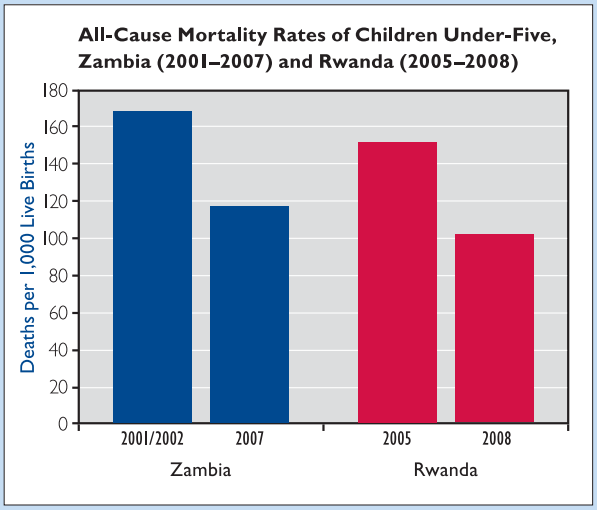
FIGURE 2
Decline in Proportion of Blood Smears Positive for Malaria, Muleba District Hospital, Tanzania, 2006–2008



- In Malawi, household surveys conducted in 2007 and 2008 in Nkhotakota District demonstrate a relative reduction of 28 percent in severe anemia in children 6 months to 30 months of age. A closer look at areas within the district where PMI supported IRS in October–November 2007 shows an even greater reduction of 44 percent in severe anemia. In light of these positive results, the Malawi Ministry of Health (MOH) plans to scale up IRS in six additional high-risk districts.

- In Mozambique, in 2007, at the request of the NMCP, PMI helped expand and strengthen the government's IRS program in Zambézia Province. With PMI support, a total of 586,568 houses were sprayed, and more than 2.5 million people were protected. Between September and November 2008, PMI supported a second round of IRS, during which 412,923 houses were sprayed and more than 1.4 million people were protected. Fewer houses were sprayed in the second round because houses that were harder to reach were targeted for long-lasting ITN distribution. An independent survey (funded by the Bill and Melinda Gates Foundation through the Innovative Vector Control Consortium) was conducted in November 2008 in the same six districts. Results showed a 38 percent decline in malaria prevalence when compared to a similar 2007 survey.

BOX 1
Scale-Up of Malaria Prevention and Treatment Measures Associated With Reduction in Under-Five Mortality



Malaria prevention and treatment measures are associated with and can contribute to reductions in under-five childhood mortality. This is already being seen in Zambia and Rwanda, where, according to successive DHS surveys, under-five mortality rates are dropping in association with scaled-up prevention and treatment interventions and reductions in the prevalence of malaria infections.

PMI – A Partner in Malaria Control

Partnerships at both the international and national levels are key to PMI's strategy and success. PMI coordinates its activities with major multilateral and bilateral institutions and donors, such as the World Health Organization (WHO), UNICEF, the World Bank, the Global Fund, the U.K. Department for International Development, and the Bill and Melinda Gates Foundation. During the past year, PMI expanded collaboration with the private sector, nongovernmental organizations (NGOs), and faith-based organizations (FBOs). These groups often have strong bases of operation in underserved rural areas, where the burden of malaria is greatest. The Malaria Communities Program, launched in December 2006, catalyzes partnerships with small national and international NGOs and FBOs. In Year 3, through the Malaria Communities Program alone, PMI provided more than $11 million in grants to eight NGOs and FBOs working at the community level in PMI focus countries. In total, PMI has supported more than 150 nonprofit organizations, more than 40 of which are faith based.

In 2007 and 2008, PMI, the ExxonMobil Foundation, Malaria No More, and many others contributed funding to the Harmonization Working Group of the Roll Back Malaria Partnership to improve the success rate of African countries applying for Global Fund malaria grants. This support has had a major impact. In the most recent round (Round 8), 78 percent of the 18 African countries that received technical support from the Harmonization Working Group were successful in their grant applications. The increased funds will greatly contribute to the rapid scale-up of malaria prevention and treatment interventions in PMI focus countries and other high-burden African countries.

PMI continues to work with WHO and other technical partners to reach consensus on issues, such as how best to use microscopic diagnosis and rapid diagnostic tests in different epidemiological and clinical settings; how to improve quality standards for antimalarial drugs, especially ACTs; and how to roll out community-based treatment of malaria with ACTs.

PMI BACKGROUND

PMI Structure: PMI is an interagency initiative led by the U.S. Agency for International Development (USAID) and implemented together with the Centers for Disease Control and Prevention (CDC) of the Department of Health and Human Services (HHS). It is overseen by the U.S. Global Malaria Coordinator, advised by an Interagency Steering Group made up of representatives of USAID, CDC/HHS, Department of State, Department of Defense, National Security Council, and Office of Management and Budget.

PMI Country Selection: The 15 focus countries were selected and approved by the Malaria Coordinator and the Interagency Steering Group using the following criteria:

- High malaria disease burden;
- National malaria control policies consistent with the internationally accepted standards of the WHO;
- Capacity to implement such policies;
- Willingness to partner with the United States to fight malaria; and
- Involvement of other international donors and partners in national malaria control efforts.

PMI Approach: PMI is organized around four operational principles based on lessons learned from more than 50 years of USG efforts in fighting malaria, together with experience gained from implementation of PEPFAR, which began in 2003. The PMI approach involves:

- Use of a comprehensive, integrated package of proven prevention and treatment interventions;
- Strengthening of health systems and integrated maternal and child health services;
- Commitment to strengthen NMCPs and to build capacity for country ownership of malaria control efforts; and
- Close coordination with international and in-country partners.

PMI works within the overall strategy and plan of the host country's NMCP, and planning and implementation of PMI activities are coordinated closely with each MOH.

PMI FUNDING SUMMARY

Fiscal Year (FY)	Budget	Focus Countries
2006	$30 million[1]	Angola, Tanzania, and Uganda
2007	$135 million[2]	Malawi, Mozambique, Rwanda, and Senegal (in addition to Round 1 countries)
2008	$300 million[3]	Benin, Ethiopia (Oromia Region), Ghana, Kenya, Liberia, Madagascar, Mali, and Zambia (in addition to Round 1 and Round 2 countries)
2009	$300 million	All 15 PMI focus countries
2010	$500 million	All 15 PMI focus countries
TOTAL: $1.265 billion		

[1] In addition, Angola, Tanzania, and Uganda also used $4.2 million in FY05 funds for malaria activities.

[2] This total does not include $25 million of additional FY07 funding, of which $22 million was used for malaria activities in the 15 PMI focus countries. In addition, Malawi, Mozambique, Rwanda, and Senegal used $11.9 million in FY06 funds for malaria activities as allocated by the Malaria Coordinator.

[3] Benin, Ethiopia (Oromia Region), Ghana, Kenya, Liberia, Madagascar, Mali, and Zambia also used $23.6 million of FY06 funding and $42.8 million of FY07 funding (of which $2.8 million was included in the $25 million additional FY07 funding) as allocated by the Malaria Coordinator.

PMI Drug and Commodity Security: Central Emergency Procurement Fund

For malaria case management and prevention, maintaining adequate drug and commodity supplies can be a matter of life and death. Stockouts of critical malaria treatments, such as ACTs, can result in increases in morbidity and mortality. Similarly, stockouts of mosquito nets and indoor insecticide spray have been associated with increases in malaria cases, particularly in children and infants. PMI works with partner countries to prevent such shortages by ensuring adequate stocks of malaria drugs and other commodities. This effort culminated in the creation of the PMI Central Emergency Procurement Fund. If a country needs drugs or commodities but lacks funds to make the purchase, the Central Fund buys and ships the necessary goods. In 2008, use of the Central Fund averted what could have been disastrous stockouts in Liberia and Malawi. In both countries, funding from other donors arrived later than expected, leaving the countries without sufficient funds to purchase ACTs. In Kenya, a stockout had already occurred and was mitigated by the Central Fund's rapid procurement of ACTs. The Central Fund purchased and delivered more than 2.4 million treatments to these three countries during 2008, saving countless lives.

POLINA FLAHIVE/SI

Dr. Bernice Dahn, Deputy Minister and Chief Medical Officer at the Ministry of Health and Social Welfare in Liberia, accepts PMI's emergency shipment of 496,000 ACT treatments procured through the Central Fund.

Building Capacity in National Health Systems

Both directly and indirectly, PMI resources help build health systems and strengthen overall capacity in host government's MOHs and NMCPs. By reducing the burden of malaria in highly endemic countries, where MOH statistics indicate that the disease often accounts for 30–40 percent of outpatient visits and hospital admissions, PMI allows critical resources and overstretched health workers to concentrate on controlling other childhood illnesses, such as diarrhea and pneumonia. In 2008, PMI efforts to strengthen health systems included:

- Funding for training: more than 35,000 health workers on case management with ACTs, more than 1,600 health workers in malaria laboratory diagnostics, and more than 14,000 health workers in IPTp;

- Providing $8.4 million in FY 2008 funding to help MOHs, NMCPs, and national essential drugs programs to improve the forecasting; procurement; quality control; storage; and distribution of antimalarial and other drugs, and to train and supervise pharmacy, medical store staff, and health workers to ensure the correct usage of these drugs;

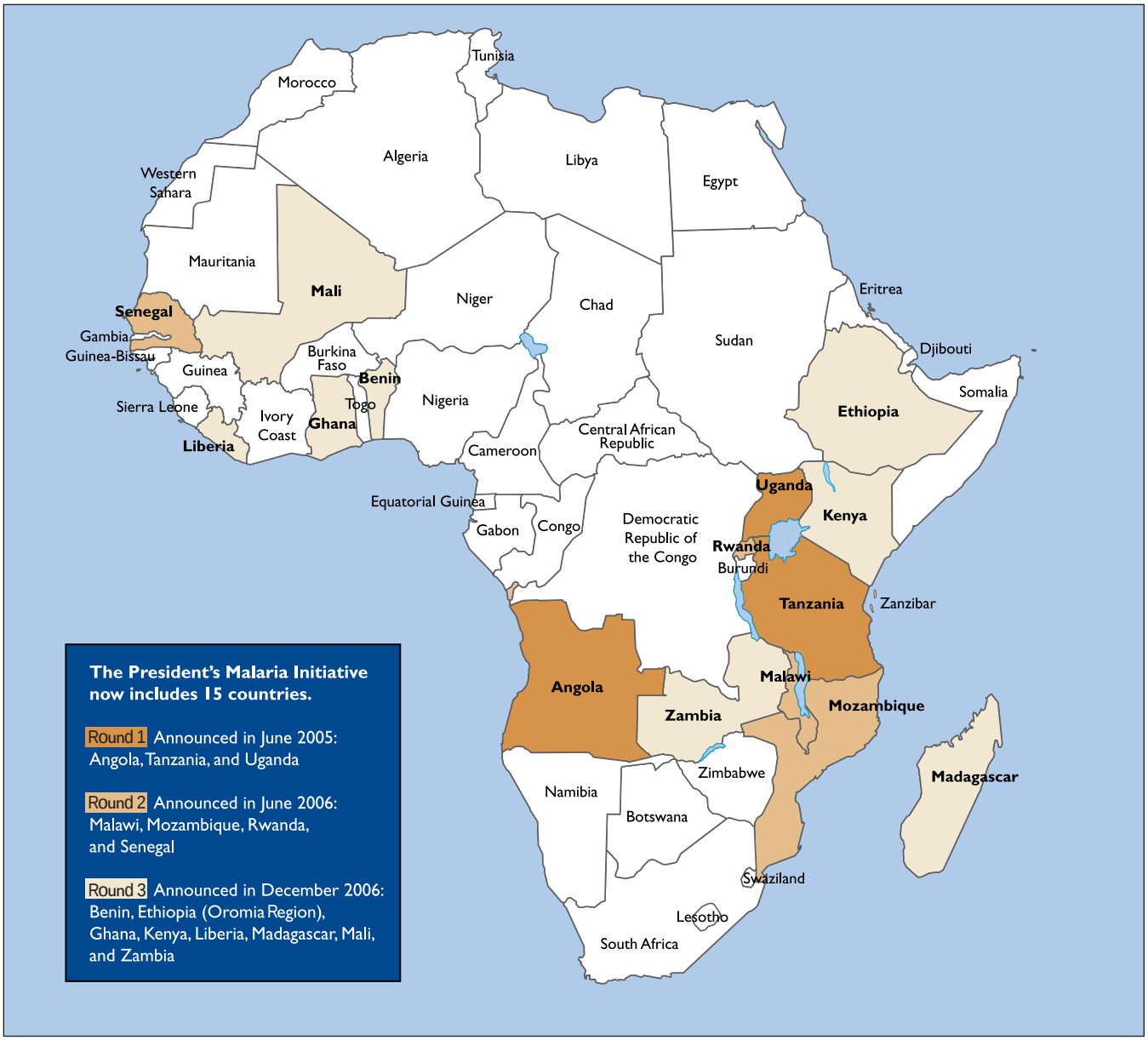
- Supporting national Health Management Information Systems and malaria surveillance programs to improve the quality and timeliness of data collection, analysis, and reporting, as well as to strengthen epidemic detection and response; and

- Collaborating with NMCPs and other partners, such as the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and WHO, to strengthen laboratory diagnosis of malaria. These efforts to upgrade laboratory services help improve the overall quality of primary health care, diagnosis, and treatment.

Looking Ahead

In spite of this progress, we cannot afford to be complacent. Inefficient national supply chain management systems, the intensification of antimalarial drug and insecticide resistance, and weak health information systems all hamper malaria and other disease control efforts. Together with our partners, PMI is tackling these challenges. With the increased funding for malaria in the Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008, the USG has the opportunity to expand malaria prevention and treatment efforts across the continent.

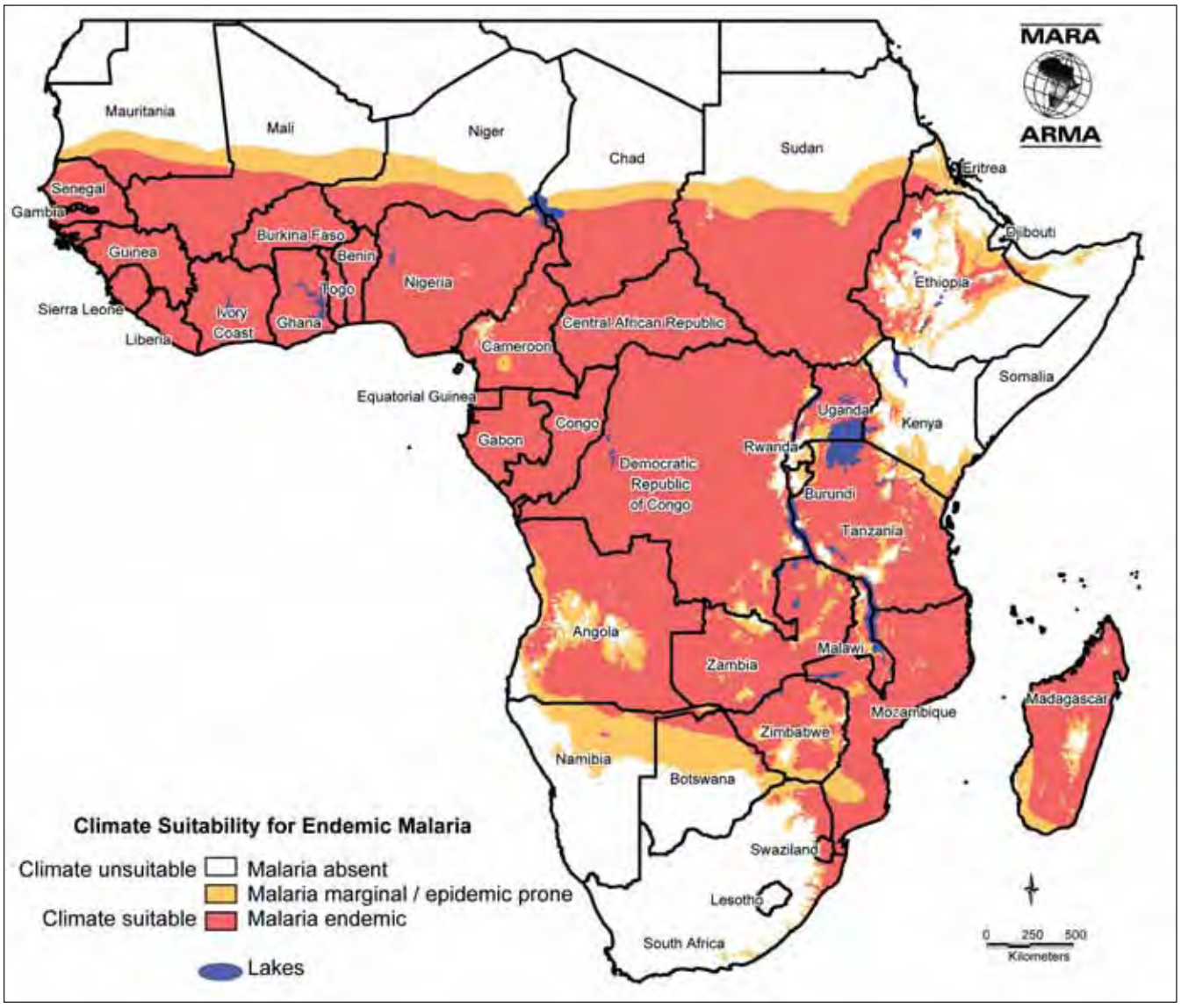
BOX 2
PMI Focus Countries



As malaria prevention and treatment activities expand in all 15 focus countries, and malaria declines, some adjustments in approach will be necessary. These include:

- Emphasizing laboratory diagnosis of malaria over traditional clinical diagnosis based on the patient's symptoms in order to differentiate malaria from other multiple causes of fever;
- Improving malaria surveillance and response as the prevalence of malaria falls, immunity to malaria wanes, and the risk of outbreaks increases; and
- Tailoring approaches to prevention and treatment of malaria to the changing malaria situation.

Distribution of Malaria in Africa



PMI Country-Level Targets

PMI has a single set of country-level targets for the four major control measures. These targets are the same for each focus country, and they apply to the populations most vulnerable to malaria: children under age five and pregnant women.

- More than 90% of households with a pregnant woman and/or children under five will own at least one ITN;
- 85% of children under five will have slept under an ITN the previous night;
- 85% of pregnant women will have slept under an ITN the previous night;
- 85% of houses in geographic areas targeted for IRS will have been sprayed;
- 85% of pregnant women and children under five will have slept under an ITN the previous night or in a house that has been protected by IRS;
- 85% of women who have completed a pregnancy in the last two years will have received two or more doses of IPTp during that pregnancy;
- 85% of governmental health facilities will have ACTs available for treatment of uncomplicated malaria; and
- 85% of children under five with suspected malaria will have received ACT treatment within 24 hours of onset of symptoms.

Acknowledgments

The Third Annual Report of the 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.

Cover photo
The President's Malaria Initiative strives to reduce the burden of malaria across Africa
by targeting the two most vulnerable groups — pregnant women and children under five, such as these children at a health clinic in Kenya.

Credit
Bonnie Gillespie/Voices for a Malaria-Free Future

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