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**PRESIDENT'S MALARIA INITIATIVE**

**Malaria Operational Plan**

**Fiscal Year 2011 (Year One)**

**DEMOCRATIC REPUBLIC OF CONGO**

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## ABBREVIATIONS

ACT — artemisinin-based combination therapy  
AL — artemether-lumefantrine  
ANC — antenatal clinic  
AS-AQ — artesunate-amodiaquine  
CCM – Country Coordinating Mechanism (of the Global Fund)  
CDM - *Centrales de Distribution Regionale* (Regional Distribution Centers)  
CRS – Catholic Relief Services  
DPM – Department of Pharmacies, Medicines, and Traditional Medicine  
FBO — faith-based organization  
Global Fund — Global Fund to Fight AIDS, Tuberculosis, and Malaria  
GDRC – Government of the Democratic Republic of Congo  
GHI – Global Health Initiative  
GMP – Global Malaria Program  
HISP – Health Information System Program  
IEC — information, education, communication  
IMA – Interchurch Medical Assistance  
IMCI — integrated management of childhood illnesses  
INRB — *Institut National de Recherches Biomédicales* (National Institute for Biomedical Research)  
IPTp — intermittent preventive treatment for pregnant women  
IRS — indoor residual spraying  
ITN — insecticide-treated net  
LLIN — long-lasting insecticide-treated net  
LMS – Leadership, Management, and Sustainability (Project)  
MESST – Monitoring and Evaluation System Strengthening Tool  
MIS — Malaria Indicator Survey  
MOH — Ministry of Health  
NEML – National Essential Medicines List  
NGO — non-governmental organization  
NMCP- National Malaria Control Program  
PARSS — *Projet d’Appui à la Réhabilitation du Secteur de la Santé* (World Bank)  
PHC — Primary Health Care  
PMI — President’s Malaria Initiative  
PMURR — *Projet Multisectoriel d’Urgence pour la Réhabilitation et la Reconstruction* (World Bank)  
PMTCT — prevention of mother to child transmission  
PNDS — *Plan National de Développement Sanitaire* (National Health Development Plan)  
PSI — Population Services International  
RBM — Roll Back Malaria  
RDT — rapid diagnostic test  
RFA — request for application  
SANRU – *Santé Rurale* (USAID rural primary health care project)  
SNAME – *Système d’Approvisionnement en Médicaments Essentiels* (National System for Procurement of Essential Medicines)  
SP — sulfadoxine-pyrimethamine  
UNDP — United Nations Development Program

UNICEF — United Nations Children’s Fund  
USAID — United States Agency for International Development  
USG — United States Government  
WHO — World Health Organization  
WHOPES – World Health Organization Pesticide Evaluation Scheme

## EXECUTIVE SUMMARY

Malaria prevention and control are major foreign assistance objectives of the U.S. Government (USG). In May 2009, President Barack Obama announced the Global Health Initiative (GHI), a six-year, comprehensive effort to reduce the burden of disease and promote healthy communities and families around the world. Through the GHI, the United States will invest \$63 billion over the next six years to help partner countries improve health outcomes, with a particular focus on improving the health of women, newborns, and children.

The President's Malaria Initiative (PMI) is a core component of the GHI, along with HIV/AIDS, and tuberculosis. The PMI was launched in June 2005 as a 5-year, \$1.2 billion initiative to rapidly scale up malaria prevention and treatment interventions and reduce malaria-related mortality by 50% in 15 high-burden countries in sub-Saharan Africa. With passage of the 2008 Lantos-Hyde Act, funding for PMI has now been extended through FY2014. Programming of PMI activities follow the core principles of GHI: encouraging country ownership and investing in country-led plans and health systems; increasing impact and efficiency through strategic coordination and programmatic integration; strengthening and leveraging key partnerships, multilateral organizations, and private contributions; implementing a woman- and girl-centered approach; improving monitoring and evaluation; and promoting research and innovation.

The United States Agency for International Development (USAID) has been supporting malaria control efforts in the Democratic Republic of Congo (DRC) for more than ten years. Although not selected as one of the initial 15 countries in the President's Malaria Initiative (PMI), the level of USAID malaria funding in DRC rose significantly in Fiscal Year (FY) 2007 and FY08 to about \$7 million annually, then further to \$15 million in FY09 and finally \$18 million in FY2010. DRC will become the sixteenth PMI country with a proposed budget of \$37 million for FY2011.

Malaria is a major health problem in the country accounting for an estimated 40% of outpatient visits by children under five and 40% of the overall mortality in children under five. Implementation of large-scale malaria control activities in DRC faces serious challenges. The country's health infrastructure is very weak and it is estimated that only about 25% of the population has access to health facilities. An additional complicating factor is that external donor support of health activities in DRC is fragmented geographically.

The 2007 Demographic and Health Survey (DHS) showed very low coverage rates of major malaria prevention and control measures. Only 9% of households owned one or more insecticide-treated nets (ITNs), and only 6% of children under five and 7% of pregnant women had slept under an insecticide-treated mosquito net the night before the survey. The proportion of children under five with fever treated with artemisinin-based combination therapy (ACT) within 24 hours of the onset of illness and the proportion of pregnant women receiving two doses of intermittent preventive treatment (IPTp) were less than 1% and 5%, respectively, but it should be noted that implementation of these interventions only began in 2006.

Between 2006 and 2010, USAID focused on assisting the National Malaria Control Program of DRC to scale up a package of malaria prevention and treatment measures in all 1,432 health facilities within 80 targeted health zones in four provinces (East and West Kasai, South Kivu, and Katanga). On

February 2010, DRC signed a 5-year, \$383 million Round 8 malaria grant from the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund). The DRC is also a World Bank Malaria Booster Program country and is receiving approximately \$130 million in malaria funding over the next four to five years. UNICEF and the World Health Organization, and others have been partners with the NMCP in scaling up interventions.

This Malaria Operational Plan for FY2011 was developed during a planning visit carried out in February 2010 with participation of USAID/Kinshasa, USAID/Washington, the Centers for Disease Control and Prevention (CDC), the NMCP, and other major partners. The activities that PMI is proposing to support fit in well with the NMCP's National Malaria Control Strategy (2009-2013) and are designed to complement activities supported under the recently approved Global Fund Round 8 grant and the World Bank Malaria Booster Program. With FY2011 funding, PMI will expand malaria control support to a total of 112 health zones in the four provinces currently targeted by USAID, so that all health zones in those provinces will be covered by a partner supporting malaria prevention and treatment activities. The proposed FY2011 PMI budget for DRC is \$37 million.

**Insecticide-treated nets (ITNs):** The NMCP's National Malaria Control Strategy (2009-2013) supports a three-pronged strategy for distribution of ITNs: distribution of free nets through large-scale campaigns, routine distribution of free nets through antenatal clinics (ANCs) and child health clinics, and commercial sales of full-cost nets. During the past two years, USAID has funded distribution of more than one million long-lasting ITNs (LLINs) in the 80 targeted health zones. With the increased malaria funding available in FY2011, an estimated 2 million free LLINs will be procured and distributed through a mass campaign to achieve universal coverage in Katanga Province. Another 650,000 LLINs will be used to sustain routine distribution through ANCs and child health clinics in Katanga, South Kivu, East Kasai and West Kasai Provinces.

**Prevention of malaria in pregnancy:** More than 85% of women in DRC attend an ANC at least once during their pregnancy. Although implementation of IPTp in the DRC began in 2003, scale up has gone slowly and, as of 2007, only 5% of pregnant women were receiving their two IPTp treatments. With FY2011 funding from PMI, USG's support to IPTp scale up will be expanded to 112 health zones in the four targeted provinces and will be used to continue to procure and distribute sulfadoxine-pyrimethamine (SP) for IPTp, provide refresher training of health workers, and information, education, and communication (IEC) to increase demand for and use of the recommended two doses of SP during pregnancy.

**Malaria case management:** Although artesunate-amodiaquine (AS-AQ) was approved as first-line treatment of uncomplicated malaria in DRC in March 2005, implementation of the new policy only began in government facilities in 2006. USAID has supported the scale up of AS-AQ treatment in all health facilities in the 80 targeted health zones. With FY2011 PMI resources, this support will be expanded to 112 health zones in those four provinces, with procurement of 6.4 million AS-AQ treatments, together with drugs and supplies for the treatment of severe malaria, refresher training of health workers in good case management, IEC/BCC to support the use of AS-AQ, and technical assistance to the NMCP and Ministry of Health (MOH) to strengthen the pharmaceutical management system at the national, provincial, and health facility levels in those 112 health zones.

**Health System Strengthening and Integration:** Consistent with GHI principles, PMI is intensifying its efforts to build in-country capacity and integrate malaria activities with other USG programs. The health system in the DRC, as in other countries in the region, suffers from lack of qualified health workers and the provision of quality health care is a major challenge. PMI funds will be used with other health earmarked funds (HIV, Maternal and Child Health, and Family Planning) to support the creation of a pool of trainers at the provincial level, who will, in turn, train health facility and community-based workers to provide high quality malaria prevention and case management services. Current primary health care activities include the prevention and treatment of malaria and HIV/AIDS, Maternal and Child Health, and Family Planning services offered in the 80 health zones that have been supported with USG funding. In addition, PMI laboratory strengthening activities, including procurement of equipment and training of laboratory technicians, will be well integrated with similar activities supported by PEPFAR.

## **GLOBAL HEALTH INITIATIVE**

Malaria prevention and control is a major foreign assistance objective of the U.S. Government (USG). In May 2009, President Barack Obama announced the Global Health Initiative (GHI), a six-year, comprehensive effort to reduce the burden of disease and promote healthy communities and families around the world. Through the GHI, the United States will invest \$63 billion over six years to help partner countries improve health outcomes, with a particular focus on improving the health of women, newborns and children. The GHI is a global commitment to invest in healthy and productive lives, building upon, and expanding, the USG's successes in addressing specific diseases and issues.

The GHI aims to maximize the impact the United States achieves for every health dollar it invests, in a sustainable way. The GHI's business model is based on: implementing a woman- and girl-centered approach; increasing impact and efficiency through strategic coordination and programmatic integration; strengthening and leveraging key partnerships, multilateral organizations, and private contributions; encouraging country ownership and investing in country-led plans and health systems; improving metrics, monitoring and evaluation; and promoting research and innovation. The GHI will build on the USG's' accomplishments in global health, accelerating progress in health delivery and investing in a more lasting and shared approach through the strengthening of health systems.

## **PRESIDENT'S MALARIA INITIATIVE**

The President's Malaria Initiative (PMI) is a core component of the GHI, along with HIV/AIDS, and tuberculosis. The PMI was launched in June 2006 as a 5-year, \$1.2 billion initiative to rapidly scale up malaria prevention and treatment interventions and reduce malaria-related mortality by 50% in 15 high-burden countries in sub-Saharan Africa. With passage of the 2008 Lantos-Hyde Act, funding for PMI has now been extended through FY2014 and, as part of the GHI, the goal of the PMI has been adjusted to halve the burden of malaria in 70% of at risk populations in sub-Saharan Africa (or about 450 million residents) by the end of 2015/early 2016. This will be achieved by reaching 85% coverage of the most vulnerable groups — children under five years of age and pregnant women — with proven preventive and therapeutic interventions, including artemisinin-based combination therapies (ACTs), insecticide-treated nets (ITNs), intermittent preventive treatment of pregnant women (IPTp), and indoor residual spraying (IRS). With the 2008 Lantos-Hyde Act, funding for PMI has been extended



in 2010 to two additional countries – Democratic Republic of Congo (DRC) and Nigeria, bringing the current total to 17 PMI focus countries.

In implementing this Initiative, the U.S. Government is committed to working closely with host governments and within existing national malaria control plans. Efforts are coordinated with other national and international partners, including the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund), Roll Back Malaria (RBM), the World Bank Malaria Booster Program, and the non-governmental and private sectors, to ensure that investments are complementary and that RBM and Millennium Development goals are achieved. Country assessment and planning activities for PMI, as well as subsequent evaluations, will be highly consultative and held in collaboration with the national malaria control program and other partners.

The USG has been supporting malaria control efforts in the DRC for more than ten years. The level of malaria funding essentially through USAID rose from \$1-2 million to about \$7 million annually in FY07 and FY08, and then further to \$15 million in FY09 and \$18 million in FY10. This document presents a detailed one-year implementation plan for FY2011 - Year One of the President's Malaria Initiative in DRC. It briefly reviews the current status of malaria control and prevention policies and interventions, identifies challenges and unmet needs if the goals of the PMI are to be achieved, and provides a description of planned Year One activities under the PMI. The document was developed in close consultation with the National Malaria Control Program and with participation of many national and international partners involved in malaria prevention and control in the country. The total amount of PMI funding requested for DRC is \$ 37 million for FY 2011.

## **BACKGROUND**

The Democratic Republic of Congo (DRC) is the third largest country in Africa (after Algeria and Sudan) and the fourth most populated in Africa. It has a population of approximately 66.5 million people,<sup>1</sup> 32% of whom live in urban areas. It straddles the equator and shares borders with nine countries – Congo Brazzaville, Central African Republic, Sudan, **Uganda, Rwanda, Burundi, Tanzania, Zambia, and Angola** – five of which are PMI countries. Administratively, the country is divided into 11 provinces and 45 districts. The DRC is one of the poorest countries on the African continent, ranking 176<sup>th</sup> out of 182 countries ranked in the world in terms of the 2009 human development index; an estimated 80% of the population lives on less than \$1 per day. According to the 2007 DHS, the under-five mortality rate is 148/1,000 live births and maternal mortality rate is 549/100,000 live births. Life expectancy at birth is just 43 years.

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<sup>1</sup> <https://www.cia.gov/library/publications/the-world-factbook/print/cg.html>



In 2003, the DRC emerged from a seven-year long armed conflict, during which the government was only able to maintain power in the western part of the country. Following the 2003 peace accords, the eastern part of the country has become more accessible, but continuing flare ups between opposing political factions make security problematic and an estimated two million displaced people add to the challenge of providing health services in the region. The first nationwide elections ever held in DRC took place in August 2006.

The country's vast size, its numerous large rivers, and the poorly maintained road system make travel very difficult and many areas are inaccessible for many months each year. Public telecommunication systems are only beginning to be developed. The capital, Kinshasa, provincial capitals, larger towns and most secondary cities have cellular telephone networks.

The health system in DRC is made up of three levels:

- A central level, which includes the office of the Minister of Health, the General Secretary of the MOH, and Directorates and disease-specific programs, and has normative, strategic, and regulatory functions;
- An intermediate level made up of the 11 provincial health departments with an appointed Minister of Health, each with program offices corresponding to the central level and a provincial reference laboratory. The provincial health departments are expected to provide technical and logistic support to the health zones; and
- A peripheral, operational level, which consists of 515 health zones, each with a population of 100,000-150,000 and about 15-20 health centers. The health zones are supervised by a Chief Medical Officer.

Currently, DRC has 493 government, 165 missionary, and 67 private hospitals and more than 7,700 lower-level health facilities.

The withdrawal of central government support in the 1990s left the health zones with much greater independence and the new constitution envisions division of the country into 26 provinces with much greater autonomy. As a result of these changes, it is expected that the provincial level health departments will become increasingly responsible for implementing and coordinating activities within their health zones.

The Government of DRC (GDRC) provides very little budgetary support to the health sector. While the total budget allocated to health has increased each year since 2000, the proportion of the budget devoted to health fell from 4.9% in 2003 to just 2.5% in 2008, and only about half of the allocated funding is actually expended. The majority of health services in DRC are provided by non-governmental organizations (NGOs) and faith-based organizations (FBOs) with support from external donors. Although the MOH asks all donors to support a “minimum” package of health services in those facilities where they work, at present, this does not occur in all health zones.

The staff of most health facilities is made up of both paid and unpaid workers, but salaries are very low and paid workers frequently do not receive their salaries on a regular basis. To supplement these low salaries and to allow payment of unpaid workers, patients are charged user fees for nearly all health services, including consultations, laboratory diagnostic tests, and medicines. The amounts charged for these services are not established by law or regulation and they can vary from one province and health zone to the next. Individually, each fee is quite small, but they do add up and a mother with a sick child could easily spend \$2-3 on a single clinic visit, well beyond what most rural families can afford. In part, these user fees may be responsible for the very low utilization rate of public health facilities in DRC, estimated at about 25%.

## **MALARIA SITUATION IN DRC**

Malaria is reported by the MOH to be the principal cause of morbidity and mortality in the DRC. It is estimated that 97% of the population lives in zones (between 300 and 1,000 meters altitude) with stable transmission lasting 8-12 months per year; the highest levels of transmission (hyper- and holoendemic zones) are in the north and west of the country. The remaining 3% of the population lives in highland or mountainous areas (mostly in North and South Kivu and Katanga Provinces), which are prone to malaria epidemics. As is the case throughout tropical Africa, the greatest burden of malaria morbidity and mortality falls on pregnant women and children under five years of age. According to MOH reports, malaria accounts for more than 40% of all outpatient visits and for 40% of deaths among children under five years of age.

*Plasmodium falciparum*, the predominant species of malaria parasite in the DRC, accounts for approximately 95% of all infections. Studies carried out in 2000-2001 showed 29-80% resistance to chloroquine and up to 60% resistance with sulfadoxine-pyrimethamine (SP, Fansidar<sup>®</sup>). In 2005, the combinations of amodiaquine plus artesunate (AS-AQ) and artesunate-lumefantrine (AL; Coartem<sup>®</sup>) were shown to be highly efficacious at five sites around the country, and AQ+AS was adopted as the first-line drug for the treatment of uncomplicated malaria. The major vector is *Anopheles gambiae*, but *An. funestus* predominates in the highlands of the eastern part of the country.

The NMCP has about 52 professional staff at the national and provincial levels including a team of four (medical officer, nurse supervisor, data manager, and driver) in each of the 11 provinces. There are no NMCP workers at the health zone level or below. The NMCP has updated its current National Strategic Plan, setting extremely ambitious goals and targets for coverage of the major malaria prevention and treatment measures. The new 2009-2013 National Malaria Strategic Plan and the country National Health Development Plan (2011-2015) – “*Plan National de Développement Sanitaire*” (PNDS) focuses on: (1) prevention through the use of ITNs and IPTp; (2) universal coverage with ITNs through mass campaigns as well as routine distribution through ANCs and child immunization clinics, with the aim of providing three ITNs to every household in the DRC; and (3) improved case management with ACTs for uncomplicated malaria and rapid diagnostic tests (RDTs) to improve diagnosis.

The NMCP’s goal is to reduce malaria-related mortality by 50% by 2013 and achieve geographical coverage of all 515 health zones and all health facilities in those zones. At present, only 391 of the 515 health zones have a partner providing malaria services, leaving 125 health zones completely uncovered. The very ambitious NMCP coverage targets for 2013 are listed in the table below:

Indicators	2013 Targets
Proportion of the population at risk of malaria sleeping under a long-lasting ITN (LLIN)	>80%
Proportion of children under five with a fever diagnosed and treated according to national guidelines	>80%
Proportion of pregnant women who have received two or more doses of IPTp	>80%
Proportion of malaria epidemics controlled according to national guidelines	>80%
Proportion of houses in targeted zones covered with indoor residual spraying (IRS)	>80%

### Funding of malaria control activities

Many different donors are contributing to malaria control efforts in DRC. The health zones supported by these donors depend in part on the NGOs they have traditionally funded and in part on decisions made by the MOH in assigning them to different provinces and areas of the country. This has resulted in a patchwork distribution of donor support to malaria control efforts across the country in which 391 of the 515 health zones receive some support from one or more donors, but 124 health zones have no support.

Global Fund: The major donor for malaria control activities in DRC is the Global Fund. In Round 3, DRC received a five-year malaria grant for \$53.9 million that ended in June 2009. The Principal Recipient of this grant was the United Nations Development Program (UNDP) with 14 sub-recipients. It covered 119 of the country's 515 health zones and focused on scaling up ITNs, ACTs, and IPTp and extending efforts to the community level. As with other donor-supported projects, the 119 health zones are scattered throughout all 11 provinces in the country, rather than being concentrated in a smaller number of provinces. DRC was recently successful with their Round 8 grant application for a total of \$383 million that focuses on further scaling up the major interventions of ACTs, ITNs, and IPTp in the same 119 health zones. For instance, Global Fund will support 10 of the 80 current USAID-supported health zones with comprehensive primary healthcare package. The Principal Recipients of the Round 8 grant are:

- GDRC - training, operational research, supervision;
- Population Services International (PSI) - ITN campaigns; and
- The NGOs *Santé Rural* (SANRU) and Interchurch Medical Assistance (IMA) -delivery of malaria prevention and treatment services through health facilities and communities.

The World Bank: Malaria activities in DRC are being funded through two major World Bank Malaria Booster Program projects:

- The DRC Health Sector Rehabilitation Project (referred to as PARSS), a 4-year, \$150 million project with a \$30 million Malaria Booster Program component providing a package of malaria prevention and treatment services to a total population of 20 million in 160 health zones (80 new health zones in addition to 80 zones covered by an earlier project

which ended in April 2009). As with the Global Fund, these health zones are scattered throughout the country. Implementation of activities under this project got underway in early 2009. A total of \$17 million of the \$30 million is already programmed for procurement of 2.9 million long-lasting ITNs (LLINs) that will be distributed in the 160 health zones supported by the World Bank. A total of \$10 million is programmed for procurement and distribution of AS-AQ in the same health zones. An additional \$100 million in malaria funding (Booster Program Phase II) announced in April 2010 will extend the duration of the PARSS Project as well as fill the gap of LLINs for mass distribution campaigns; and

- A \$180 million Emergency Urban and Social Rehabilitation Project (referred to as PMURR), an urban development project that included a \$13 million, one-time procurement and distribution of two million LLINs to Kinshasa town and province (now completed).

**USAID:** Malaria funding to DRC increased from a level of \$1-3 million per year between 2000 and 2006 to \$7-8 million in FY07 and FY08. This funding, together with maternal and child health, tuberculosis, HIV/AIDS, and family planning funding has been used to support a comprehensive primary health care project in all health facilities in 80 health zones in four provinces: Katanga, East Kasai, West Kasai, and South Kivu. Activities in 57 of those health zones are being implemented by the AXxes Project managed by the non-governmental organization, Interchurch Medical Assistance, together with *Eglise du Christ au Congo*, Catholic Relief Services (CRS), and World Vision International. This Project is scheduled to end in September 2010. Activities in the remaining 23 health zones are being implemented by the Leadership, Management and Sustainability (LMS) project of Management Sciences for Health, which took over responsibility for these zones from Catholic Relief Services (CRS), and will also end in December 2010 due to a recent 3-month no-cost extension award. Global Fund and USAID overlap in 10 out of the 80 health zones and those health zones will benefit from an exclusive malaria support from Round 8 onward. In addition, there are currently 42 health zones in the same four provinces without any malaria-specific funding.

In FY 2011, PMI resources will contribute to expanding malaria services from 80 health zones to 112 health zones, covering 22% of the 515 health zones nationwide. This expansion will reach an estimated 17 million people with malaria prevention and treatment services. The following table provides the break down of the 112 health zones out of the 196 health zones in the four target provinces.

	Total HZ	USAID PHC	GF-Round 8	New USAID-supported Health Zones	PMI	Province Coverage	Country Coverage
<b>West Kasai</b>	44	10	1	14	23	52%	
<b>East Kasai</b>	51	25	8	15	32	63%	
<b>Katanga</b>	67	17	0	9	26	39%	
<b>South Kivu</b>	34	28	1	4	31	91%	
<b>Total in four provinces</b>	<b>196</b>	<b>80</b>	<b>10</b>	<b>42</b>	<b>112</b>	<b>57%</b>	<b>22%</b>
<b>Total in Country</b>	<b>515</b>						<b>100%</b>

In FY2010, the USAID malaria program in DRC will continue to focus its activities in the 80 USAID-supported health zones targeting pregnant women and children under five (see Table below). USAID will also provide technical assistance to the malaria control program at the national and provincial level to improve the coordination among donors and implementing partners.

	<b>AXxes Project (57 Health Zones)</b>	<b>CRS/LMS Project (23 Health Zones)</b>	<b>Total</b>
Total population (2011)	8,404,415	3,142,523	11,546,938
Pregnant women	336,177	125,701	461,878
Children under five	1,680,883	628,505	2,309,388

In addition to the above-listed donors, support for malaria control has come from UNICEF, the Japanese International Cooperation Agency, the African Development Bank, the Canadian International Development Agency (CIDA), WHO and the British Department for International Development (DfID). UNITAID also made a one-time donation of \$27.5 million, which has been used to purchase 5.5 million long-lasting ITNs (LLINs), which arrived in country during 2009 and were distributed until the first quarter of 2010. Until 2006, the Government of the DRC (GDRC) provided approximately \$2 million annually to the NMCP for staffing costs, infrastructure and some commodities; since then funding has been continued at about the same level but no funding is provided for commodities.

## **CURRENT STATUS OF MALARIA INDICATORS**

The most up-to-date information on the status of malaria prevention and control interventions in DRC comes from the 2007 DHS, carried out between January and August 2007. The 2007 DHS reported household ownership of any net in DRC to be 28% and those owning an ITN at 9%. The most common reason people gave for not owning a net was that they were too expensive, followed by lack of availability. Only 6% of children under-five surveyed had slept under an ITN the previous night. Of the pregnant women surveyed, only 12% and 5% had taken one and two or more doses of SP for IPTp, and only 7% had slept under an ITN the previous night. While the survey showed use of preventive measures to be low, these figures should be improving with the recent province-wide ITN campaigns.

The DHS also showed weak case management of malaria in children under-five. Only 17% of children with a fever in the last two weeks were treated with an antimalarial drug the same day or the next day after onset of the fever. Of those treated, less than 1% received an ACT, while 10% received quinine, the second-line treatment. Other antimalarial drugs used included sulfadoxine-pyrimethamine (SP) (2%) and chloroquine (3%).

Indicator	2007 DHS
Households with at least one ITN	9%
Children under five years old who slept under an ITN the previous night	6%
Pregnant women who slept under an ITN the previous night	7%
Women who received two or more doses of IPTp during their last pregnancy in the last two years	5%
Children under five years old with fever in the last two weeks who received treatment with an ACT within 24 hours of onset of fever	<1%*

\*Although a total of 17% of children under five received an antimalarial drug the same day or next day after onset of fever, most were treated with quinine; SP and amodiaquine were also prescribed



## **EXPECTED RESULTS — FY2011 Funding**

By the end of FY 2011, the following targets will have been met:

### Prevention:

- 2.7 million LLINs will have been procured and distributed to families in universal coverage campaigns in Katanga Province and routine services within the provinces of South Kivu, East and West Kasai, and Katanga;
- 1.5 million SP treatments will have been distributed to pregnant women during antenatal clinic visits in the provinces of South Kivu, East and West Kasai, and Katanga; and
- 3,500 health workers will have been trained or re-trained in malaria in pregnancy.

### Treatment:

- 6.4 million AS-AQ treatments will have been procured and 3 million treatments will have been distributed to health facilities in the 112 health zones. This procurement will cover not only USAID supported zones but also will fill the gap where necessary;
- Approximately 70,000 treatment kits for the management of severe malaria will have been procured;
- Approximately 1.2 million RDTs will have been procured and distributed together with training and ongoing supervision in their use; and
- 3,500 health workers will be have been trained or re-trained in the treatment of uncomplicated and/or severe malaria.

## **PREVENTION ACTIVITIES**

### **Insecticide-Treated Nets**

The National Malaria Strategic Plan 2009-2013 aims at shifting from a focus on achieving high LLIN use by vulnerable populations to reaching universal coverage. The goal is to ensure that at least 80% of persons at risk for malaria sleep under an LLIN, by 2013. The strategy for achieving universal coverage is to plan for one LLIN per two persons (per WHO interim guidelines) and to distribute three nets per household, mostly through mass campaigns. The NMCP follows a three-pronged strategy for distributing LLINs: a) distribution of free LLINs through large-scale integrated or stand-alone campaigns; b) routine distribution of free nets to pregnant women at antenatal clinics or to children under five years of age at pre-school clinics; and c) private sector sales of full cost nets. In some health zones, health facilities charge a user fee of \$0.50 per net.

In its National Strategy, the NMCP notes the lack of a central system to monitor the importation and distribution of LLINs by multiple partners. Individual partners import nets and distribute them directly to the health zones they support without reporting to a central database. LLINs are subject to numerous taxes, customs charges and long delays at port. The NMCP is addressing this issue with the Ministry of Finance and has reported significant progress. USAID's implementing partners are exempt from these charges. Nevertheless, there are informal taxes imposed at various check points between the entry points into the country and the final distribution points, adding to the real cost of the net. Estimates for in-country delivery range from \$1.50 to \$3.00 per net.

Prior to 2008, most nets were distributed through routine services at health facilities. The 2007 DHS showed household ownership of one or more ITNs was 9% nationwide, with use by children under five years of age at 6% and by pregnant women at 7%. To scale up ownership and use rapidly and equitably, the NMCP established a multi-year cycle of mass distribution campaigns by province. Campaigns initially targeted vulnerable children, and were integrated with measles vaccination, vitamin A supplementation and deworming with mebendazole. Kinshasa conducted the first stand-alone campaign targeting universal coverage in 2008, followed by integrated campaigns in Maniema and Orientale Provinces in 2009. USAID contributed \$1 million to the distribution costs for the latter two campaigns to cover the logistics cost of the 5.5 million nets provided by UNITAID, and UNICEF and other partners provided operational support. For campaigns planned in 2010 and 2011 in eight provinces, the NMCP has identified a funding gap of about 2.4 million nets in South Kivu, with the remaining 22 million nets covered by the Global Fund and the World Bank if PMI provides 2 million nets to Katanga province.

The Global Fund Round 8 grant focuses on two areas of LLIN support: nationwide mass distribution campaigns in conjunction with the Expanded Program for Immunization and the National Nutrition Program, including advocacy, monitoring and evaluation; and LLIN distribution through routine antenatal and child health clinics in 119 health zones previously funded under Round 3. Support includes training and retraining of health workers, and monitoring and evaluation.

The NMCP and partners often cite the lack of donor coordination as a major obstacle to implementing an effective LLIN intervention. In FY09, USAID provided funding to support the development of a centralized database for LLINs, which should improve the NMCP's ability to track LLIN inputs

geographically and target its funding requests. PMI Resident Advisors will work closely with the NMCP to help build its coordination capacity, and help monitor the implementation of this centralized database.

### LLIN mass campaigns 2006-2009: Distribution and coverage

Province & Year	Target Populations	Distribution strategy	Type campaign	No. LLINs distributed	HH ownership pre, post	LLIN use <5 pre, post	LLIN use pregnant women pre, post
Bas Congo 2006	Children 6-36 months		Integrated	380,000	25.7%, 78.2%	21.7%, 65.2%	24%, 70%
South Kivu 2007	Children <5 years		Integrated	540,000	19.6%, 84.8%	18.6%, 81.6%	43.4%, 92.6%
Equateur 2008	Children <5		Integrated	1,493,748	NA 95%	NA	NA
Kinshasa 2008	All	2 LLINs per HH	Stand-alone	2,000,000	NA 97.5%	NA	NA
Maniema 2009	All	3 LLINs per HH	Integrated	4,538,776	NA	NA	NA
Orientale 2009	All	3 LLINs per HH	Integrated	961,224	NA	NA	NA

### LLIN mass campaigns 2010-2011: Resources and gaps

Province	Campaign Year	Population	Quantity of LLINs			Source of LLINs
			Needs	LLINs Available	GAP	
Kasaï Oriental	2010	8,737,856	4,368,928	4,368,928	0	GF(R-8)
Kasaï Occidental	2010	6,976,726	3,488,363	3,488,363	0	GF(R-8)
Bandundu	2010	7,379,375	3,689,688	740,000	0	WB(PARSS)
				100,000		GF(R-3)
				2,849,688		WB(PMURR)
Katanga	2011	10,838,524	5,419,262	2,000,000	0	USAID/PMI
				3,419,262		WB(ALMA)
North Kivu	2011	6,089,995	3,044,997	3,044,998	0	WB(ALMA)
Bas Congo	2011	3,195,585	1,597,793	1,597,793	0	GF(R-8)
South Kivu	2011	4,928,748	2,464,374	0	2,464,374	To be found
<b>TOTAL</b>		<b>48,146,809</b>	<b>24,073,405</b>	<b>12,295,084</b>	<b>2,464,374<sup>2</sup></b>	

\*Source: NMCP – May 2010

The NMCP's 2009-2013 plan contains a detailed breakdown of LLIN activities, targeting mainly campaign implementation, with less attention given to routine LLIN delivery through antenatal and child health clinics, and limited plans for communications. For mass distribution, the NMCP estimates

<sup>2</sup> The World Bank is considering filling the LLINs gap for Bandundu, Katanga and North Kivu provinces. This still has to be confirmed.

that 43,024,165 LLINs (up-to-date figure is over 48 million nets) will be needed to achieve the 80% coverage target by 2013, at a cost of nearly \$304 million. According to the NMCP, this estimate is obtained by dividing the population number of 2009 by two using WHO's one net per two universal coverage principle. Also factored in this estimate were additional nets needed for replacement based on the current guideline of 3-year net durability.

For routine distribution, a total of 16.5 million LLINs will be needed for a cost of \$117 million, bringing the total of nets to 59.5 million at a total cost of \$421 million over the duration of the plan. Given these significant needs, some partners are concerned whether adequate resources will be available to achieve a target of three nets per household during campaigns.

Large-scale ITN campaigns are extremely complex. Poor transportation and communications in DRC have made thorough micro-planning and partner coordination critical. The NMCP provided overall coordination through regular meetings with partners, including the NGO community. Training and supervision of the community health workers and Red Cross volunteers that monitor net "hang-up" in households during and after campaigns is often inadequate and needs to be improved. In addition, sleeping spaces in many rural Congolese households are used for other purposes during the day, making it difficult to verify full coverage of nets. The NMCP and partners have not yet initiated discussions to determine alternative approaches.

With support from UNICEF, the NMCP together with the Kinshasa School of Public Health have developed and implemented a protocol to monitor malaria indicators after the 2009 distribution campaigns in Equateur, Orientale and Maniema Provinces. These surveys included questions on LLIN ownership and use, as well as measurement of anemia and parasitemia levels. The results of these evaluations should shed more light on the impact of both campaign and routine LLIN distribution activities.

To maintain the LLIN coverage post-campaign, the National Strategy includes distribution of LLINs through routine antenatal and pre-school clinics, but the distribution network and infrastructure are inadequate to ensure regular supplies. Monitoring the distribution of routine LLINs is a challenge, as health workers themselves have been known to divert some nets for their own use. Nevertheless, the NMCP and partners stress the importance of continuing some level of support for the routine system. In fact, they note that LLIN distribution may attract attendance at ANC and child health clinics, thus promoting other preventive services. In October-December 2009, clinics supported through the LMS bilateral project observed an increase in pre-natal consultation from 70% to 87%, as well as an increase in the rate of birth attendance by qualified personnel from 47% to 53%; in the absence of other malaria or programmatic interventions, LMS attributed the increased rates to the distribution of LLINs through health centers. For 2011, the National Strategy estimated a total need for nearly 3.3 million LLINs to be delivered through routine services nationwide, at a cost of about \$23 million. While partners including USAID, UNICEF, the Global Fund and many other organizations provide support for routine distribution, the levels of support do not meet all routine needs. In addition, data on routine distribution are currently not readily available, but efforts are ongoing with USAID-supported partners, UNICEF and PSI to monitor routine distribution to better plan procurement and distribution of LLINs in the future.

No comprehensive national strategy exists on communications to promote LLIN ownership and use. The National Malaria Strategic Plan provides little guidance on communications, other than planning

for television and radio spots focusing on net use. Individual programs appear to implement their own communication activities in their focus health zones, a pattern that can lead to considerable variability in messaging. National guidance will be critical as the program expands to areas that currently lack a “net culture.” The country gained valuable experience with communications during the mass campaigns; however, campaign reports still indicate a drop-off between net ownership and use. The results of the Maniema and Oriental Provinces’ post-campaign surveys are yet to be finalized and released. Explaining net installation can be complicated, given that sleeping spaces in rural areas are used as living areas during the day. Documenting the experiences gained through both routine and campaign delivery could be an important step toward developing a national LLIN communications strategy.

There is little information on LLIN care practices. The NMCP does not have a net replacement policy, relying mainly on communicating the need to not use old nets. Messages to households focus on promoting net hang-up and use, not on repairs.

Information on LLIN durability is not available. Such information is essential to the NMCP for choosing and procuring nets and for providing guidance on their use and maintenance. The NMCP anecdotally suggests that nets in some areas have been reported to last no more than 18 months, unlike manufacturers’ guidelines of 3-5 years. Since 2008, the *Institut National de Recherches Biomédicales* - National Institute for Biomedical Research (INRB)- has conducted some testing of the insecticidal activity of LLINs through cone bioassays in Bas Congo, Kinshasa, Equateur and South Kivu. The results of the testing are yet to be validated and published by the World Health Organization.

PMI will use lessons learned from past post-campaign and routine community-based activities to develop a national strategy for promoting ITN hang up and use.

Increasing experience from the field suggests that many LLINs do not last for a full three years. In most such cases, moderate to large rips or holes develop along the lower edges of the nets where they are tucked under mattresses or mats. These holes seem to develop well before the net loses its insecticidal activity. Until more general recommendations are made by WHO about the frequency of net replacement, PMI implementing partners involved in IEC/BCC activities related to LLINs will be asked to include additional messages about prolonging the useful lifetime of the nets. PMI is currently working with partners to develop messages related to use and care of LLINs and will disseminate further guidance shortly. These messages should focus on two major points:

1. Please treat your nets gently, as the netting material is not as strong as the material used for clothing. Please be particularly careful when tucking the net under a mattress or mat where it could catch on a sharp object and tear;
2. If a hole develops in one of your nets from sharp objects, burns, washing, rodents etc, please sew it up before it can increase in size;
3. If the hole or holes are too big to repair, you should seek a replacement net from ...

***Planned FY 2011- funded activities: (\$20,325,000)***

In its first year, PMI will focus on supporting the implementation of LLIN mass distribution campaigns in one province, complemented by routine distribution and communication activities to promote ownership and use.

- Procure and deliver 2,000,000 LLINs to contribute to the LLIN campaign net gap in Katanga Province. The funding includes the cost of nets along with delivery from port to distribution site, planning, training and supervision, and social mobilization/ communications and net hang-up promotion. Emphasis will be placed on training and supervising community workers to ensure net use. (\$16,000,000);
- Procure and deliver 700,000 LLINs through routine antenatal and child health clinics in 112 health zones in Katanga, South Kivu, East Kasai and West Kasai. (\$4,200,000);
- Support provincial-level communication activities for the Katanga Province campaign to complement and reinforce community-level mobilization. These activities will address LLIN ownership and use and LLIN care practices, and support development of a national strategy for ITN hang-up and keep-up (\$100,000);
- CDC technical assistance for campaign planning and observation (\$25,000).

### **Indoor Residual Spraying**

The DRC has limited experience in implementing IRS and although the NMCP's National Malaria Plan calls for IRS, it limits this activity to the four health zones where mining companies are operating. One company, Tenke Fungunume Mining has conducted yearly rounds of IRS since 2008 as a part of their malaria control program in 10 of 18 health areas in the Fungunume Health Zone, Katanga Province. This program, which included universal coverage with LLINs, achieved a 60% reduction in incidence of malaria in the workforce and a 56% reduction of malaria prevalence in school age children. This program has offered training activities to help surrounding areas initiate a malaria program but to date IRS activities are limited to Fungunume Health Zone. Because IRS is a technically and logistically challenging malaria intervention, PMI will not support IRS activities with FY2011 funds. When significant progress has been made in the scale up of LLIN coverage and of usage of IPTp and ACTs in DRC, this approach will be re-evaluated.

### **Malaria in Pregnancy**

In 2003, the MOH adopted IPTp with SP for prevention of the adverse consequences of malaria in pregnant women and their newborns. The national policy recommends administration of two doses of SP, at least a month apart, during the second and third trimesters of pregnancy at the time of routine antenatal clinic (ANC) visits. Pregnant women who are HIV positive are expected to receive three doses of SP. Women attending an ANC pay a standard fee for a prenatal card; this fee includes all ANC services along with the cost of SP and an LLIN. Information about the IPTp doses is recorded in clinic registers.

The 2007 DHS survey found that more than 85% of pregnant women attend an antenatal clinic at least once in DRC and 79% make two visits. In spite of this, only 5% of pregnant women received two doses of SP during ANC visits, and 7% slept under an ITN the night before the survey. According to the NMCP, the fact that IPTp had not been fully implemented in all 515 health zones may explain, in part, the very low coverage rate of malaria in pregnancy interventions as reported in the 2007 DHS.

Other factors that may account for the low IPTp coverage rates are stock outs of SP for IPTp, attendance at ANC late in the pregnancy, and the fee charged for the ANC consultation, but since these fees help ensure the functioning of the health facilities and the payment of incentives (*primes*) for the workers, they may be difficult to remove. To date, 391 health zones implement IPTp. The RBM Needs Assessment report recommended an immediate evaluation to determine the causes of the low coverage of IPTp.

The NMCP and the Reproductive Health Program coordinate their activities and malaria training has been integrated into training modules for reproductive health, although some duplication of training between the two Programs does occur. The NMCP and Reproductive Health Program are developing a common action plan where the latter will coordinate IPTp provision through ANC care. Through the WHO-recruited Advisor and other technical staff in DRC (2 PMI Resident Advisors), PMI will provide technical support to this collaboration to ensure that the NMCP and the Reproductive Health Program complement each other.

Most of the major donors fund antenatal care services in the health zones they support, but not all health facilities in these zones are covered (except for the 80 USAID-supported zones). Supplies of SP for IPTp are purchased and distributed by each partner. Overall, stock outs of SP are reported to have become less frequent, since the SP formerly used as the first-line drug for the treatment of uncomplicated malaria is now available for IPTp. In those health zones that are not supported by a specific partner, stock outs are more frequent.

***Planned FY2011-funded activities: (\$1,375,000)***

During FY11, PMI funding for MIP interventions will continue to support IPTp and provision of LLINs at ANCs in 70 out of 80 USAID primary health care package supported health zones, and expand to the remaining 42 health zones (which have no donor support) so as to provide the package of MIP services for the entire provinces of East Kasai, West Kasai, South Kivu, and Katanga.

- Procure SP for ANCs in health facilities in 112 health zones. Using the quantification for these 112 health zones done by a PMI implementing partner, a total of 1.5 million SP treatments will be required to provide 100% coverage (\$200,000);
- Provide initial and/or refresher training to health facility staff and community health workers on malaria in pregnancy interventions including counseling strategies on use of LLINs during pregnancy and the importance of early attendance at ANC, providing 2 treatments of IPTp according to national policy, and proper recording of interventions for program monitoring (\$600,000);
- Continue supervision of health workers trained in MIP interventions to monitor performance and ensure quality of services (\$300,000);
- Support IEC efforts to emphasize the risks of malaria to the pregnant woman, the importance of using an ITN regularly, attending ANC visits and taking all doses of IPTp. IEC/BCC efforts related to malaria in pregnancy will be integrated with those related to ACTs and ITNs (\$200,000); and

- Revise, update, and print training materials for pre-service courses related to malaria in pregnancy for use at medical and nursing schools nationwide (\$75,000).

## **CASE MANAGEMENT**

### **Malaria Diagnosis**

According to the new national policy, every febrile patient regardless of age should undergo parasitological testing for malaria. The presumptive treatment for malaria based on the integrated management of childhood illness algorithm will be progressively replaced by testing with a rapid diagnostic test (RDT) for any fever-related illness. The use of RDTs in the 119 Global Fund health zones is in the initial stages of planning, and a national implementation plan for diagnostics is still needed. At the present time, the treatment of malaria in most peripheral health facilities in DRC is still based on clinical diagnosis alone. Malaria microscopy is only available in larger health centers and hospitals, but little is known about the quality of those diagnoses. As yet, no plans exist to introduce RDTs at the community level; however, the Kinshasa School of Public Health with support of CIDA has recently conducted a study assessing the feasibility of this strategy and the preliminary results show that RDTs can be used at community level.

Procurement of laboratory diagnostic equipment and supplies is done by individual donors according to the needs for the health zones they are supporting. Most microscopes are binocular and use electricity or a mirror for lighting; no regular maintenance of the microscopes is provided. Giemsa stain is the preferred stain. Training of laboratory workers at the central level is primarily carried out by the Kinshasa School of Public Health, and the INRB. Training and supervision of laboratory workers at the provincial and health zone levels is not being conducted in any systematic fashion. No quality assurance/ quality control system for microscopy exists. One of the recommendations of the RBM Needs Assessment is that an analysis of malaria laboratory diagnosis needs should be carried out as soon as possible.

In the 80 health zones previously supported by USAID, training of health workers in malaria case management is carried out in an integrated fashion with training on prevention of malaria in pregnancy as part of a larger 21-day training module that includes IMCI. The malaria training was developed in collaboration with the NMCP and NMCP staff have been involved in the training itself. In those health zones where the AXxes Project is implementing activities, a seven-day training course is provided to the health zone management team (Chief Medical Officer, hospital director, director of nursing, and director of community mobilization) and a three-day course for the chief nurse and deputy in each health facility in that zone, making a total of 1,099 healthcare (~ 45%) providers trained. At the same time, 769 received refresher training during the first quarter of 2010. As a result, over 250,000 pregnant women received SP in 2009. Health facility staffs are supervised once a month by a member of the health zone management team and the health zone staffs receive a monthly supervisory visit by the AXxes staff. Refresher training is done as part of these supervisory visits.

In the 57 health zones where the AXxes Project is working, training in RDT use has been integrated with training on malaria in pregnancy and malaria case management. This includes the ten health zones



where the Global Fund also provides services. A total of 1,099 health workers have been trained. There is no charge for RDT diagnosis in the facilities in these 10 health zones; however, patients in most other health zones do pay a fee for diagnostic tests. This year, RDTs will be rolled out to remaining AXxes and LMS health zones. LMS recently conducted training of 24 microscopists within their 23 supported health zones

***Planned FY2011-funded activities: (\$1,400,000)***

Malaria laboratory diagnosis is a key component of good case management and will become increasingly important as prevention measures are scaled up and the proportion of fevers attributable to malaria decreases. PMI will strengthen malaria diagnosis (both microscopy and RDTs) in health facilities in all 80 health zones currently supported by USAID and prepare to expand malaria diagnostics to the remaining health zones in those four provinces. The following activities will be supported during FY2011:

- Procure 1,150,000 RDTs for use in the 112 health zones (\$700,000);
- Strengthen the capacity of reference laboratories at the central (INRB) and provincial levels to perform internal quality control, earn WHO accreditation, and develop a team of trainers and supervisors for microscopy and RDTs (\$200,000);
- Provide training and supervision of laboratory and health workers performing malaria diagnostics in the 112 PMI supported health zones (\$500,000).

**Pharmaceutical management and malaria treatment**

Pharmaceutical management system: The pharmaceutical sector in DRC is highly fragmented, and has little or no governmental oversight. Multiple parallel pharmaceutical supply systems exist for public sector health facilities and the supply system for any particular facility depends largely on the donor supporting the health zone where the health facility is located.

The Directorate of Pharmacies, Medicines, and Traditional Medicine (DPM) is the MOH division charged with the responsibility for providing oversight over the pharmaceutical sector. The DPM is currently the weakest link within the public pharmaceutical supply system, as it has limited status within the MOH, as well as limited staff and financial support. This has created a vacuum that has contributed to the fragmented pharmaceutical landscape. In 2007, the WHO completed an evaluation of the pharmaceutical sector in DRC that recommended an overhaul of the DPM with the creation of an independent medical agency that would be able to generate and retain its own revenue and be independent from political influence over its operations. As yet no reorganization has taken place.

In 2002, the MOH established the National System for Procurement of Essential Medicines (SNAME) with the objective of centralizing procurement of essential medicines through a non-profit central purchasing agency, known as FEDECAME, and decentralizing the distribution of medicines in peripheral areas through a network of 30-40 regional distribution depots (*Centrales de Distribution Regionale*; CDR). These CDRs are non-profit private depots that the MOH has contracted to serve as regional warehouses for the public sector pharmaceutical supply system. Most of them have evolved

from depots previously managed by the faith-based community, and remain dependent on outside financial support. FEDECAME has three primary responsibilities: procurements for the public sector pharmaceutical supply system; quality assurance of those products; and technical and logistical support for the CDRs.

Several pharmaceutical policies and guidelines have been developed and revised within the last three years. The National Pharmaceutical Policy was revised in December 2005 with support from WHO. The National Essential Medicines List was most recently revised in November 2007. Disease-specific standard treatment guidelines developed by the NMCP exist for malaria and reflect current WHO recommendations. Regulation of the pharmaceutical sector is weak. The legal framework, roles and responsibilities for the Drug Regulatory Authority, which is currently part of the DPM, have been defined within the national pharmaceutical policy and pharmaceutical laws; however, the enforcement capacity of the DRA is weak due to management problems in the DPM, and its limited budget and human resource capacity.

Although the National Essential Medicines List contains a listing of all basic medicines for use in public health facilities, most partners have developed their own lists of essential drugs. This has led to a situation in which basic medicines may vary considerably from one health sector to another.

Given the fragmented nature of the pharmaceutical system in the country, responsibility for estimating drug requirements depends on whether the partner supporting the health zone or the MOH program is following a ‘push’ or ‘pull’ pharmaceutical supply system. Accurate and reliable consumption and/or morbidity data are not available to inform quantification. Methods for quantifying needs vary widely across the country depending on the health zones and various donor partner requirements and even within each health zone; quantification methods may differ depending on the requirements of disease-specific programs, too. Overall, the absence of reliable consumption or morbidity data means that pharmaceutical supply needs are quantified based on dispensing data (at best), on the popularity of the pharmaceuticals (at worst), or on any “method” in-between, from demographic data to availability of funds.

The method for procurement varies according to the requirements of the individual partner, although almost all of them depend on international procurements. Within the national pharmaceutical supply system, FEDECAME has the mandate to conduct all the procurements and FEDECAME is only authorized to procure products listed on the national essential medicines list. All FEDECAME procurements are done via open tenders, with approximately 98% representing international open tenders. Since FEDECAME does not have a central warehouse or capital reserves, its procurements are limited to those orders received from the CDRs and for which a deposit of 30% of the final cost of purchase has been received. Donors and other MOH partners who do not procure through FEDECAME are responsible for either paying the 6.6% importation tax, or obtaining a waiver from the Ministry of Finance. This waiver has to be processed separately for each shipment. Most groups rely on private clearing and forwarding agents, and private transportation companies to transport medicines and supplies to the depots or offices in the health zones. Ground transportation within the country is one of the major bottlenecks to the pharmaceutical supply system, due to the great distances and poor quality of the roads. Given these challenges, the primary mode of transportation for pharmaceutical supplies after their arrival at a port of entry is via air, although even air transport services are limited.

The CDRs are generally well run and well-organized, with appropriate storage conditions including shelving and pallets, temperature control and tracking, security, cleanliness and designated re-packaging areas.

The drug quality assurance system in DRC is weak. No WHO-certified testing laboratory exists, although the GDRC has identified four private sector laboratories that should be used for testing all imported pharmaceuticals. There is currently no pharmacovigilance system, although the MOH signed a decree creating a national system and has developed an implementation plan.

Governance issues are another concern in the pharmaceutical system. Even though there are no major leakages reported, no system is in place to ensure accountability of commodities procured by donors. A major contributor to the governance challenges within the pharmaceutical sector is the non-payment of salaries, particularly of staff working at the health facility level. Some donors provide a 'prime' (bonus) to supplement the salaries of the staff in the health zones they support, but others including USAID, which by law cannot provide direct salary support to government employees, do not provide any supplements. As these staff are the same ones responsible for managing the health facility's finances and the cost-recovery funds, the likelihood of misappropriation of funds, even by those inclined to be honest, is greatly increased. To prevent drug leakages in the health system, PMI will work with its implementing partners and local stakeholders to implement IEC/BCC activities that are culturally sound and designed to create the sense of ownership and respect for drugs and other malaria commodities as common goods.

National treatment policy: In response to evidence of increasing SP resistance, a series of studies were carried out between 2002 and 2004 to compare the therapeutic efficacy of SP alone for the treatment of uncomplicated *P. falciparum* malaria with three ACTs: AQ-SP, SP-AS, and AS-AQ. The failure rate with SP alone ranged from 2% to 61%, for AQ-SP from 1 to 32%, for SP-AS from 0% to 20%, and for AS-AQ the failure rate was 0.2%. Based on these findings, in March 2005, the MOH changed its first-line treatment for uncomplicated malaria from SP to AS-AQ and made oral quinine the recommended treatment for patients who failed to respond to AS-AQ. For malaria in pregnant women, SP is the treatment of choice; parenteral quinine is the recommended treatment for severe malaria.

The new treatment policy was implemented beginning in 2006, but scale up has been slow. By the end of 2009, it is expected that ACTs will be in use in 395 health zones in which an external partner is working but not in the remaining 125 health zones. Although training is done by partners, the NMCP is being involved to ensure uniformity of training. More than 365 institutions train health care personnel in DRC, and it appears that some of them do not follow or are not aware of current NMCP guidelines in their training. The MOH has approved case management with ACTs at the community level and the roll out of this policy has already begun in some health zones.

The NMCP has set a very ambitious coverage target for malaria treatment by 2013, namely that 80% of patients with a fever will have received diagnosis and treatment according to national guidelines at all levels of the health system. According to the 2007 DHS, the country is still far from reaching this target, as only 17% of children under-five were treated with any antimalarial drug and fewer than 1% had received an ACT within 24 hours of the onset of their fever.

Currently, the AS-AQ being used in DRC comes from two different sources in India: Ipca Laboratories and Cipla Pharmaceuticals. The presentation is co-packaged blister packs for three different age groups, 0-6 years, 7-13 years, and >13 years. Most AS-AQ is procured and distributed by partners to the health zones they are targeting, instead of going through the MOH pharmaceutical management system. This means that national information on ACT usage is fragmented and incomplete. In those health zones where Global Fund is supporting malaria control activities, drugs are provided following a “push” system which is supply driven, but this is being converted to a “pull” system which is demand driven. At the health facility level, the charges for a treatment of AS-AQ ranges from 50 to 100 Congolese Francs (\$0.08 to 0.17) depending on the health zone and facility. Reports from various partners indicate that there have been problems with acceptance of AS-AQ, apparently due to the secondary effects of the AQ component. This is obviously a much greater problem with a co-packaged formulation, because patients quickly learn which of the two drugs cause side effects and can then separate the tablets and only take those that do not cause side effects.

In the 80 USAID-supported health zones, training of health workers in the prevention of malaria in pregnancy is carried out in an integrated fashion with training in malaria case management. In those health zones where the AXxes Project is implementing activities, a seven-day training course is provided to the health zone management team and a three-day course for the chief nurse and deputy in each health facility in the zone. A total of 50 members of the health zone team have been trained along with 1,049 health facility staff in 2009 while 47 and 722 respectively completed refresher training during the first quarter of 2010. These workers are supervised once a month by a member of the health zone management team. Refresher training is done as part of these supervisory visits. During the past year, close to 900,000 AS-AQ treatments were procured and distributed by the AXxes and LMS/MSH Project in the 80 health zones they cover. An additional 3.7 million treatments are currently being processed. Patients pay \$0.25 for each child treatment (0-6 years and 7-13 years) and \$0.50 for an adult treatment; these costs have been standardized across all AXxes health zones emphasizing a cost-recovery approach.

With the deterioration of the public health system in DRC, the private sector has flourished and a variety of antimalarial drugs are also available for purchase without prescription in shops and pharmacies, including numerous different presentations of chloroquine, SP, quinine, and artemisinin combination treatments as well as monotherapies.

The following table shows the estimated AS-AQ needs for the population of the 80 health zones already targeted by USAID’s primary health care program and the 42 additional health zones without malaria support in the Provinces of Katanga, East Kasai, West Kasai, and South Kivu. These calculations were made by a team from the Strengthening Pharmaceutical Systems Project in August 2008, with additional assumptions from NMCP as used in the PNDS. The assumptions are:

1. Proportion of the target population 0-11 months = 4%; 1-5 years = 16%; 7-13 years = 25%; >13 years = 55%; growth rate = 2.9/1,000; health zones without support = 50% current USAID coverage
2. Estimated health facility utilization rate = 25%
3. Average number of malaria episodes per year for the 0 – 11 months = 2; 1-5 year age group = 4; 7-13 year age group = 2; >13 years age group = 1.
4. Percentage of malaria cases treated with AS-AQ = 100%
5. Percentage of cases treated with quinine = 3%

6. Safety stock to account for lead times and variable consumption patterns = 1%
7. Estimated cost of AS-AQ fixed dose for 0-11 months = \$0.43; 1-6 years = \$0.54; 7-13 years = \$0.81; >13 years = \$1.20; inflation = 5%.
8. Cost of quinine (300mg) = 0.036; (600mg) = \$0.073

<b>Drug/ Formulation</b>	<b>Patient</b>	<b>2011 Population (est.)</b>	<b>2011 Requirements</b>	<b>Estimated Cost 2011</b>
AS+AQ (25/67.5mg) fixed dose infant blister of 3 tablets	Children 0-11 months coming to consultation	692,816	346,408	\$ 148,947
AS+AQ (50/135mg) fixed dose toddler blister of 3 tablets	Children 1-5 years coming to consultation	2,771,265	2,771,265	\$ 1,497,980
AS+AQ (100/270mg) fixed dose child blister of 3 tablets	Children 6-13 years coming to consultation	4,330,102	2,165,051	\$1,755,445
AS+AQ (100/270mg) fixed dose adult blister of 6 tablets	> 13 years old coming to consultation	9,526,224	2,381,556	\$2,867,227
<b>TOTAL</b>		<b>17,320,408</b>	<b>7,664,281</b>	<b>\$6,269,598**</b>

\*MSH Assessment of the Pharmaceutical Management System, August 2008 and up-to-date NMCP/NMCP basis of forecasting per WHO recommendation.

***Planned FY2011-funded activities: (\$10,900,000)***

Ensuring prompt, effective, and safe ACT treatment to a high proportion of patients with confirmed or suspected malaria in DRC represents one of the greatest challenges for the NMCP and its partners, given the weaknesses in the country's pharmaceutical management system, continued poor access to health services by a large number of Congolese, and the lack of accurate laboratory diagnostic capabilities. The complexity of AS-AQ implementation must not be underestimated with the short 18-24 month shelf-life of the artemisinin component, the high cost of ACTs in commercial markets in DRC (\$10-15 per treatment), the risk of substandard or counterfeit drugs, and the high levels of coverage that need to be attained.

With FY2011 funding, PMI will support the following activities in health zones targeted by USAID:

- Procure approximately 6.4 million co-formulated AS-AQ treatments for case management of uncomplicated malaria. (\$ 6,400,000); including operations costs.
- Procure quinine and related supplies (intravenous fluids, needles, and tubing) for the treatment of severe malaria (\$700,000);
- Revise, update, and print training materials for pre-service courses related to case management for use at medical and nursing schools nationwide (\$150,000).

- Support in-service training of health workers responsible for the management of both severe and uncomplicated malaria (\$1,200,000);
- Continue supervision of health workers trained in case management intervention to monitor performance and ensure quality of services (\$500,000);
- Assess existing IEC/BCC efforts related to AS-AQ and malaria treatment and develop plans and implement IEC/BCC efforts to improve demand for and appropriate use of ACTs for malaria case management through mass media and intrapersonal communication channels (\$400,000);
- Conduct pilot of pre-referral treatment at community level to inform national policy and program strategies (\$250,000).
- Provide technical assistance to the MOH on pharmaceuticals management related to forecasting AS-AQ and SP needs, procurement, inventory management, drug management system and provide technical assistance and advocacy to remove all taxes and administrative fees for the importation of malaria commodities. It is proposed that the USG retain responsibility for the procurement and delivery of the pharmaceutical products directly to specific CDRs in the four provinces where USAID is working. Distribution from the CDRs to the peripheral levels would follow the existing SNAME mechanisms, which appear to function well. The implementing partner will be requested to hire someone in country who can provide training and oversight of USAID-supported antimalarial drugs. To increase accountability for pharmaceuticals management at health facility level as well as community level, PMI will work through implementing partners to foster governance at health zones and health facility level. Concretely, PMI will strengthen civil society's participation in health services and products management through information sharing. Information regarding malaria commodities (availability and cost) will be disseminated through IEC activities using local radios and other communication means (\$800,000);
- Build capacity to provide community case management with ACTs. This activity includes identifying, training, equipping and supervising the *relais communautaires (community health workers)* to promote early and appropriate treatment seeking behavior (\$500,000).

## MONITORING AND EVALUATION (M&E)

Monitoring and evaluation to measure progress towards project goals, to identify problems in program implementation, and to provide information to support program modifications are critical components of National Malaria Control Programs. The NMCP M&E framework has the goal of reducing malaria deaths by 50% and achieving 80% coverage targets with specific interventions over the course of the next five years. This framework is aligned with the strategies promoted by the RBM Partnership. The NMCP M&E plan was revised in March 2010 to emphasize evaluations, resolve problems with collection of data, and improve the National Health Information System (*Système National d'Information Sanitaire, SNIS*) data. WHO will support the SNIS by providing a laptop for each of the

11 provincial data managers, plus installation of a Global Malaria Program (GMP) software package in each province. Under the USAID-supported SANRU Project, Health Information System Program (HISP) and Johns Hopkins developed a District Health Information Software to support transfer of data from the health zones to the districts by e-mail. This model may have potential for scaling up to the national level. The challenge is to reduce the large number of indicators currently used in the program.

Although the support of donors and partners has increased in recent years, and assistance has shifted from a focus on emergency response to development, the SNIS is limited due to the lack of timeliness of reporting and poor data quality. Also, as only about 30% of the population can access health facilities the health facility-based data system does not capture most cases. Routine health information is gathered at the health facility level, transmitted to the zonal offices and then on to the province level and to Kinshasa. The system depends greatly on the responsiveness of health facility staff and the interest and responsiveness of the chief medical officer, as well as the presence of donor support. In most cases this routine information is both incomplete and delayed in reaching the central level. Health workers are also supposed to communicate information on the status of health in their area of responsibility to the *relais* on a regular basis.

The WHO office has been assisting the MOH to develop a comprehensive M&E plan, but have run out of funding to complete its development. In general, there does not appear to be any reliable or systematic process for collecting and disseminating data, at any level, other than through donor support. Furthermore, it is reported that health workers have to complete as many as 20 different forms for data gathering purposes of the various donors and implementing partners, some of which seem to be individualized for their particular needs. Clearly, overburdening health workers is an issue, and a reliable plan and implementation of this plan need to be realized if a useful HMIS is to be developed in DRC. Finally, supervision at the zonal and provincial levels is inconsistent or non-existent in most areas.

On a national level there has not been any significant effort to improve the HMIS or in rationalizing or improving data collection at the facility level. It should be noted, however, that data gathering systems are in place for monitoring of polio and tuberculosis, and this indicates that it is possible to manage health systems in such a large country. Although the aim is to have a single, costed malaria M&E plan, as part of an overall HMIS, the resources and capacity to realize it are not currently in place. WHO supports 11 sentinel sites, one per province, each comprising a reference hospital and between two and three health centers. The system started in 2005, and includes monthly case reporting of a number of diseases, plus reporting of treatment failures for antimalarial drugs.

A DHS completed in 2007 provides the most up to date information on the coverage of malaria interventions. In general, the statistics for the key malaria indicators are not good. Only 9% of households have one or more ITNs and 28% own a net of any kind. Within those households owning ITNs, only 6% of children under-five and 7% of pregnant women slept under the net the night before the survey. Although the proportion of women completing at least one ANC visit is 79%, only 5% of pregnant women received two full doses of SP. The reason for the low IPTp coverage is not entirely clear, although the NMCP claims that SP shortages are to blame. Finally, while 31% of children under-five were reported to have had a fever in the two weeks preceding the survey, only 17% of them took an antimalarial within 24 hours, and, of those, fewer than 1% took an ACT.

The Malaria Indicator Survey (MIS) initially planned for 2010, will now take place in 2011. The Global Fund will require a Monitoring and Evaluation Systems Strengthening Tool (MESST) workshop before signing of the Round 8 grant, but the timing of that workshop is not known.

The PMI M&E framework aims to complement and support the existing NMCP M&E efforts. According to this framework, specific activities are monitored on a regular basis to allow in-country program managers to assess progress and redirect resources as needed. Activities within the major intervention areas, ITNs, IPTp, and case management with ACTs, will be tracked through periodic reports from groups providing commodities, health facilities, and international and local partners. Types of activities that are monitored include procurement and distribution of commodities, availability of commodities for prevention, diagnosis and treatment of malaria, health worker performance, IEC efforts, and supervision and training for healthcare workers. To supplement this information, targeted operational evaluations and record reviews are required to answer specific questions or identify problems with program implementation. Also, PMI implementing partners provide support for supervision and synthesis of data for decision-making. Health zones supported by other NMCP partners are assisted in the same manner. In health zones without any major donor support, of which there are about 125, little data collection is taking place.

WHO is calibrating final steps of the Global Malaria Program Software that each PNL provincial data management team will be using. PMI plans on playing a catalytic role in supporting the development of an M&E framework that includes all other donors and Government of the DRC's efforts.

The DRC PMI Team will identify FY 2011 PMI funding to support this national M&E framework activity. This will complement the FY10 MOP resources programmed to support a M&E Systems Strengthening workshop that would support the development of the national M&E framework.

As the NMCP is trying to decentralize its activities, each province will manage its own information, although feeding into a larger system at the national level. Therefore, ability to gather and manage information at the provincial and zonal levels is needed.

***Planned FY11 activities: (\$875,000)***

- Provide technical assistance, entomologic supplies, and travel funds for insecticide resistance monitoring in the provinces of Katanga, South Kivu, East Kasai and West Kasai. This activity will be a follow-up to FY10 activities for mosquito species identification and initial studies on insecticide resistance (\$100,000).
- Provide training for central and provincial-level NMCP staff in data collection, data analysis, quality control, and use of data for program management and decision making. As part of this activity, an evaluation of the computer network system and database platform used to transmit data from the peripheral to the central level will be conducted. Recommendations will be used to assist the NMCP in improving data transfer capabilities. (\$250,000).
- Contribute to the 2012 DHS for the malaria module; these funds will complement the contributions of other USG program support and other donors (\$500,000).



- CDC IAA monitoring and evaluation TA (\$25,000)

## **EPIDEMIC SURVEILLANCE AND RESPONSE**

Approximately two million residents, or about 3% of the Congolese population, live in areas at risk of epidemic malaria in the provinces of Katanga and Kivu in eastern DRC. These areas include 41 health zones and are the same ones where political instability has caused major population displacements, complicating any response to upsurges in malaria incidence. The last epidemic reported occurred among refugees in 2007-2008 and DRC depended on international partners for assistance in controlling this outbreak. The National Malaria Control Strategy (2009-2013) has set a target for 2011 of controlling 80% of the outbreaks (defined as a doubling of the number of cases when compared with the two previous years). In spite of these directives, nothing has been put in place at the provincial level to ensure early detection and response to epidemics. No emergency stocks of medicines exist and no one has specialized training in epidemic detection and response. Disease surveillance is carried out under the coordination of the *Direction de la Lutte Contre la Maladie*. Unfortunately, plans for containment of malaria epidemics have not been finalized. In 2010, with WHO support, the NMCP plans to develop a map of the epidemic zones, complete the guidelines for control and management of malaria epidemics, and train personnel. The MOH continues to rely on partners working in these provinces to assist with any outbreaks.

## **HIV/AIDS and MALARIA**

According to the 2007 DHS, the prevalence of HIV/AIDS in the DRC is 1.3% among people aged 15-49 years, and is higher among women (1.6%) than men (0.9%). Antenatal clinic surveillance 2008 data shows prevalence among pregnant women at 4.2%. While DRC was not a focus country in PEPFAR Phase one, it has been selected as a Partnership Framework country for PEPFAR Phase Two. The USG provided \$30 million in FY09 HIV/AIDS funding and \$30 million is expected for FY10 through FY12.

The USAID and CDC HIV/AIDS Prevention, Treatment and Care programs in DRC are implemented in the cities of Matadi, Lubumbashi, Bukavu and their immediate transport corridors with activities now expanding to Kinshasa and Kisangani. The program focuses on:

- Prevention: a) behavior change communication and condom social marketing targeting high risk populations including truckers, commercial sex workers, miners and youth as well as the general population. b) HIV counseling and testing in 16 HIV Counseling and Testing centers using both community, health facility and mobile HIV Counseling and Testing strategies; c) Prevention of mother to child transmission (PMTCT) services in 130 sites located in 40 AXxes supported health zones, blood safety activities are ongoing in 122 sites within the AXxes health zones to ensure that all transfusion to especially children under five and pregnant women are tested for transmissible diseases (like HIV);
- Care and support services improve the quality of life of People living with HIV and AIDS (PLWHAs) and Orphans and Vulnerable Children's.
- System Strengthening: build the capacity of government entities as well civil society organizations to be able to plan and manage HIV activities.

By the end of FY 2009, USAID HIV activities successfully achieved the following results: PMTCT services delivered to 53,000 pregnant women including HIV testing; provided counseling and testing to 78,000 clients, provided care and support to 7,800 orphans and vulnerable children and 4,750 PLWHAs, and distributed 17,000,000 condoms through a social marketing program.

HIV funds ensure that complicated malaria cases with anemia receive timely safe blood transfusion when needed which will reduce malaria mortality. PMTCT will continue to be implemented in 40 AXxes supported health zones. Using PEPFAR funds, both the home-based care and orphans and vulnerable children package of services will be expanded to include a LLIN.

## **CAPACITY BUILDING AND HEALTH SYSTEMS STRENGTHENING**

Policy and personnel changes, including the annual replacement of the Minister of Health, are an ongoing challenge within the health sector. Overall, this situation has created a lack of effective leadership and vision for malaria control in the DRC. Despite these challenges, the RBM Partnership supported the completion of a national level Needs Assessment in April 2008 and the DRC was successful with its \$383 million Round 8 Global Fund malaria grant. The NMCP reviewed and updated the current National Malaria Strategic Plan (2007-2011), based upon the RBM Needs Assessment meeting that was held in January of 2009.

The NMCP has about 52 professional staff members who work at the national and provincial levels in eight areas: prevention, surveillance, case management, epidemiology, partnership; operational research, social mobilization, monitoring and evaluation, and administration and financial management. At the provincial level four staff members work on malaria; the Provincial Malaria Officer, an assistant nurse or supervisor, a logistician, and a driver. There is a shortage of vector control staff.

The health system in the DRC, as in other countries in the region suffers from lack of qualified health workers and the provision of quality health care is a major challenge. Using an integrated approach, PMI will support efforts to improve health workers' performance. PMI funds will be used with other health earmarked funds (HIV, Maternal and Child Health and Family Planning) to support the creation of pools of trainers at the provincial levels. These trainers, in turn, will train health facility and community-based workers to provide high quality malaria prevention and case management services. Procurement of equipment, such as microscopes, and training of lab technicians will contribute to improving malaria diagnosis. Additionally, it will reinforce the health system capacity to diagnose and treat other infectious diseases.

The challenge of procuring and distributing malaria commodities (LLINs, ACTs, SPs, severe malaria kits, RDTs, etc) in the 515 health zones in the DRC justifies the need to strengthen the commodities supply management system. If successful, strengthening pharmaceutical management will significantly improve the primary health care delivery and have an impact on morbidity and mortality. In collaboration with other donors, PMI will contribute to reinforcing the data collection and analysis on use of malaria commodities for more accurate quantification, better forecasting and judicious planning. (Funding for these activities is included in other sections.)

Other key areas identified for improvement include development of a database on ITN distribution, post-campaign surveys of ITN ownership and use, development of a pharmacovigilance system,

evaluation of the role of the private sector in malaria treatment and development of a strategy for engagement, training, and monitoring of the private sector in malaria treatment, development of an M&E strategy and plan, insecticide resistance monitoring, development of plans for epidemic identification and containment, and training of health staff in epidemic response. Additionally, the NMCP has requested technical assistance with the scale-up of RDTs. With previous years funding, USAID supported the development of the National Malaria Task Force, a database on ITN distribution, post-campaign survey of ITN ownership, malaria diagnostic capacity assessment and the hiring of a malaria technical advisor through WHO, based within the NMCP to helping in the development of policy guidelines, organizing and implementing supervision. The recruitment process has concluded and the incumbent is completing medical exams to start work early September 2010.

At the provincial level, there is an acute need to strengthen the capacity of malaria focal persons related to implementing partner coordination, operational planning, and monitoring and evaluation. PMI will assess the needs of staff in each of the four supported provinces and identify appropriate mechanisms, mostly through bilaterals, to recruit and place staff where necessary to reinforce the malaria team.

***Planned FY2011-funded activities: (\$225,000)***

With its poor roads and communications and weak health infrastructure, efforts to improve malaria control operations in DRC will need to rely on a well-trained malaria staff at provincial and lower levels. PMI FY2011 malaria funding will be used for the following activities:

- Continue support to national and provincial Malaria Task Force Committees for regular meetings and preparation and dissemination of meeting minutes, and to support technical assistance for coordination and annual review of activities (\$100,000);
- Facilitate provincial-level participation in annual reviews and assessments of LLIN campaign experiences in other provinces to benefit from lessons learned for future, planned campaigns (\$50,000); and
- Continue to support a WHO malaria technical advisor who will help to strengthen the capacity of the NMCP at the national level in strategic planning, policies, guidelines and M&E planning (\$75,000). Continuation of this support beyond the first two years will be determined by evaluation of performance and the level of satisfaction of the NMCP.

**INTEGRATION WITH OTHER GLOBAL HEALTH INITIATIVE PROGRAMS**

PMI is committed to supporting the integration of activities from the planning to implementation stages at the health facility and community level. The Global Health Initiative (GHI) offers the opportunity to amplify this commitment by making resources available to maximize the impact of USG's health interventions. To facilitate this approach, the USAID/DRC Mission has already begun integrating malaria, HIV, Maternal and Child Health, and Family Planning activities. Current primary health care activities include malaria activities (prevention and case management) besides HIV, Maternal and Child Health, and Family Planning services offered in the 80 health zones supported by

USAID. PMI will work to improve access by HIV-positive women to a third dose of SP during pregnancy. Also, PMI FY 2011 will coincide with the start of the new USAID/DRC Mission's Integrated Health Program (IHP) currently under review and which covers the next five years.

## **COMMUNICATION AND COORDINATION WITH OTHER PARTNERS**

DRC has three national level communication and coordination mechanisms: the Donors Group (*Group Inter-Bailleurs de Santé*), the Global Fund Country Coordinating Mechanism (CCM), and the Malaria Technical Working Group.

### ***Donors Group***

Participation in this group is limited to health sector donors. Monthly meetings are held regularly with broad participation. However, weak facilitation and competing agendas limit the effectiveness of this communication and coordination mechanism. Furthermore, this group does not have any direct role in the implementation of malaria activities nor any specific mandate related to malaria. Following the recent MOH annual review held late February 2010, this group will now be part of a subcommittee within the "*Comité National de Pilotage*" led by the MOH itself.

### ***Country Coordinating Mechanism***

The CCM meets regularly with health sector stakeholders to review options and plans for submission of proposals to the Global Fund and keep abreast of progress toward start-up of activities and grant implementation. The CCM does not, however, have any direct role in implementation of malaria activities, even those associated with the Global Fund grants. DRC was successful with their Round 8 Global Fund proposal, which was signed in February 2010. USAID co-chairs the CCM, as the second Vice-President. Although CCM meetings take place on a monthly basis, they are not well facilitated.

### ***Malaria Technical Working Group***

There is a new coordinating framework recently put in place by the MOH "*Comité National de Pilotage*" where the Malaria Technical Working Group is lead by the Director of Disease Control of the MOH at national level and the Provincial Chief Medical Officer "*Médecin Inspecteur Provincial*" at the provincial level. The NMCP serves as the secretariat for all levels. This group meets quarterly and is an open forum for coordination and technical discussions at the national level. Meetings have not been held during the last quarter of 2009 and the first quarter of 2010 due to involvement of key members in the Round 8 grant process. The group held four meetings during the second quarter of 2010 with support from USAID and is developing its own work plan. At the provincial level, the MOH has a malaria focal person.

Weak coordination among donor partners remains a serious concern of the MOH and partners. As the USG's investment in malaria will increase in FY 2011 and subsequent years, PMI will need to play a strong role in helping to boost coordination among partners and create conditions for improved governance in malaria control.

### ***Planned FY2011-funded activities: (costs covered under capacity building section)***

As funding for malaria control is increasing to support the revised malaria control strategic plan, PMI will give a special emphasis on strengthening coordination and communication among donors

supporting malaria in the country. In particular, PMI will support the NMCP's Malaria Technical Working Group, as it provides an ideal forum to share information with all other national and international partners and ensure good coordination of malaria control activities. PMI will support the in country RBM Partnership by providing administrative support to regular meetings of the Technical Working Group, and participate actively in task forces. In FY 2011, PMI will:

- Use implementing partners to provide support to the National Malaria Technical Working Group for regular meetings and preparation and dissemination of meeting minutes; support development of a similar partner's forum at the provincial level in the four provinces where USAID is currently working (this activity is listed above under NMCP Capacity Building). Information sharing among donors, the NMCP leadership and staff members will be an important element to consider in supporting coordination efforts. Also, other actors including provincial-level officials and civil society organizations will be an underlining factor to successful malaria control in DRC. The FY 2011 investment will reinforce FY 2009 and FY 2010 efforts to promote an all-inclusive coordination effort (\$100,000) – see capacity building.

## **PRIVATE SECTOR PARTNERSHIPS**

For decades, faith-based NGOs have been offering health care, mostly in rural areas. Private sector clinics and health facilities provide almost 60% of health care. Faith-based clinics and hospitals are known to have a better outreach and a good record of providing quality health care to hard-to-reach people. The revised Malaria Strategic Plan indicates that of the 493 hospitals, 165 are owned by religious groups and 67 by parastatal companies.

The National Council of Health Non-Governmental Organizations (CNOS), a network of health NGOs has been involved during the past five years as a key partner in malaria control. The CNOS attends meetings called by the NMCP and expects to be more active in the future, for example in the bed net distribution campaigns. The CNOS also plans to become involved in raising communities' awareness on use of bed nets and ACTs in the near future. Other private sector partners in malaria in the DRC include the national Red Cross and the private nursing schools. The Red Cross volunteers support health activities including promotion of good health practices such as hygiene and sanitation at the community level. With 105,000 volunteers, the Red Cross also operates a pediatric referral hospital that manages severe malaria cases mainly in underserved populations. The private nursing schools in Kinshasa and Katanga offer training opportunities to hundreds of health workers every year, either using their own resources, or with donors' sponsorship. Training in malaria, HIV/AIDS, and tuberculosis is offered using materials approved by the NMCP.

A special MOH committee will soon develop a partnership framework for governance and health financing.

Even though there is no funding programmed for this activity in FY 2011, PMI believes that the USAID/DRC Mission's bilateral activities will support increased participation of the private sector (including civil society) in malaria control efforts. PMI will work in close collaboration with other donors to make sure that private sector groups are involved in coordination efforts. Activities will include support to the NMCP to pursue private sector and civil society's involvement in the Malaria Task Force. Private nursing schools may be considered in providing initial and refresher training to

health workers on malaria prevention and case management. Funding to support private sector partnerships is detailed under the Malaria in Pregnancy, Case Management and Capacity Building sections.

## **STAFFING AND ADMINISTRATION**

Two health professionals will be hired as Resident Advisors, one representing CDC and one representing USAID. The USAID Malaria Advisor, hired in late 2009, will become the USAID PMI Resident Advisor. A CDC PMI Resident Advisor will be recruited in late 2010. In addition, one or more Foreign Service Nationals will be hired to support the PMI team, including a Commodities Specialist. All PMI staff members are part of a single inter-agency team led by the USAID Mission Director or his/her designee in country. The PMI team shares responsibility for development and implementation of PMI strategies and work plans, coordination with national authorities, managing collaborating agencies and supervising day-to-day activities. Candidates for these positions will be evaluated and/or interviewed jointly by USAID and CDC, and both agencies will be involved in hiring decisions, with the final decision made by the individual agency.

These two PMI professional staff will work together to oversee all technical and administrative aspects of PMI, including finalizing details of the project design, implementing malaria prevention and treatment activities, monitoring and evaluation of outcomes and impact, and reporting of results. Both staff members report to the USAID Mission Director or his/her designee. The CDC staff person is supervised by CDC both technically and administratively. All technical activities are undertaken in close coordination with the MOH/NMCP and other national and international partners, including the WHO, UNICEF, the Global Fund, World Bank, and the private sector.

Locally-hired staff to support PMI activities either in Ministries or in USAID will be approved by the USAID Mission Director.

### ***Planned FY2011-funded activities: (\$1,900,000)***

- Salaries and support costs of 1 USAID PSC, 1 CDC direct hire, and 1 USAID FSN, including equipment, ICASS with other Mission taxes and fees such as any “cost of doing business” and associated expenses. (\$1,900,000).





TABLE 1

**Democratic Republic of Congo**  
**Planned Malaria Obligations for FY 11 (USD \$37,000,000)**

Proposed Activity	Mechanism	Budget ( <i>commodities</i> )	Geographic area	Description of activity
<b>PREVENTIVE ACTIVITIES</b>				
<b>ITNs</b>				
Procure long-lasting insecticide treated bednets (LLINs) for mass campaigns	UNICEF	16,000,000 (16,000,000)	Katanga	Contribute 2,000,000 nets to LLIN campaign net gap in Katanga. Includes cost of net, delivery, supervision and social mobilization/IEC/BCC
Provide CDC technical assistance for campaign planning and observation	CDC IAA	25,000	Katanga	CDC technical assistance
Provincial-level communication activities for campaigns	C-Change	100,000	Katanga	Communication and promotion of behavior change to increase correct usage of LLINs distributed during campaigns
Procure LLINs for routine distribution through ANC and EPI clinics	DELIVER	4,200,000 (4,200,000)	112 Health Zones	Provide 700,000 LLINs in routine service, and review potential of using LLINs as an incentive for ANC and EPI attendance (dependent on fee structure)
<b>SUBTOTAL: Insecticide-treated bednets</b>		<b>\$20,325,000 (\$20,200,000)</b>		
<b>Malaria in Pregnancy</b>				
Procurement of SP	DELIVER	200,000 (200,000)	West Kasai, East Kasai, Katanga and South Kivu	Provide SP, ANC registers, cups, water, etc. to all pregnant women in 70* USAID health zones and 42 other zones not covered by other partners in those 4 provinces

<b>Proposed Activity</b>	<b>Mechanism</b>	<b>Budget (<i>commodities</i>)</b>	<b>Geographic area</b>	<b>Description of activity</b>
Training of facility- and community-based health workers in malaria in pregnancy	New RFA	600,000	West Kasai, East Kasai, Katanga and South Kivu	Train health workers with initial or refresher courses in 112 health zones in 4 provinces; include health workers from both public and private sectors
Supervision of health workers trained in malaria in pregnancy	New RFA	300,000	West Kasai, East Kasai, Katanga and South Kivu	Supervise health workers in all 112 zones in 4 provinces; ensure supervision conducted in an integrated fashion per NMCP guidelines
IEC/BCC related to malaria in pregnancy	C-Change	200,000	TBD	Communication and promotion of behavior change to increase attendance at ANC raise awareness about risks of malaria in pregnancy
Revision and printing of training materials for malaria in pregnancy in nursing and medical schools	C-Change (with Kinshasa School of Public Health)	75,000	Nationwide	Based on FY 2010 assessment of existing training, review, revise, standardize, print and distribute training curricula and material with technical support of the Kinshasa School of Public Health.
<b>SUBTOTAL: Malaria in Pregnancy</b>		<b>\$1,375,000 (\$200,000)</b>		
<b>TOTAL: Prevention</b>		<b>\$21,700,000 (\$20,400,000)</b>		
<b>CASE MANAGEMENT ACTIVITIES</b>				
<b>Diagnosis</b>				
Procurement of RDTs	DELIVER	700,000 (700,000)	80 Health Zones	Procure and distribute about 1,2 million RDTs
Support to reference laboratories at national and	IMaD	200,000	West Kasai, East Kasai,	Supervise and implement system of quality control in

<b>Proposed Activity</b>	<b>Mechanism</b>	<b>Budget (<i>commodities</i>)</b>	<b>Geographic area</b>	<b>Description of activity</b>
provincial levels for microscopy and RDT training of trainers			Katanga and South Kivu	reference laboratories; assist in preparation for accreditation; and provide equipment
Train and supervise laboratory technicians and other health workers to perform RDT at the health zone level	New RFA	500,000	West Kasai, East Kasai, Katanga and South Kivu	In coordination with KSPH, train laboratory technicians in use of RDTs with a focus at the health zone level
<b>SUBTOTAL: Diagnostics</b>		<b>\$1,400,000 (\$700,000)</b>		
<b>Pharmaceutical Management and Treatment</b>				
Procurement of AS-AQ	DELIVER	6,400,000 (6,400,000)	West Kasai, East Kasai, Katanga and South Kivu	Procure 6.4 million AS-AQ treatments for uncomplicated malaria, including operations costs.
Procurement of drugs and supplies for treatment of severe malaria	DELIVER	700,000 (700,000)	West Kasai, East Kasai, Katanga and South Kivu	Procure 70,000 kits with quinine for treatment of severe malaria
Revision and printing of training materials in case management in nursing and medical schools	C-Change (with Kinshasa School of Public Health)	150,000	Nationwide	Based on FY 2010 assessment of existing training, review, revise and standardize training curricula and materials
Training of facility- and community-based health in case management	New RFA	1,200,000	West Kasai, East Kasai, Katanga and South Kivu	Train health workers in targeted health zones not covered by other partners in 4 provinces; include health workers from both public and private sectors

<b>Proposed Activity</b>	<b>Mechanism</b>	<b>Budget (<i>commodities</i>)</b>	<b>Geographic area</b>	<b>Description of activity</b>
Supervision of health workers trained in case management	New RFA	500,000	West Kasai, East Kasai, Katanga and South Kivu	Supervise health workers in all 112 zones in 4 provinces; ensure supervision conducted in an integrated fashion per NMCP guidelines
IEC/BCC related to case management	C-Change	400,000	West Kasai, East Kasai, Katanga and South Kivu	Provision of IEC/BCC materials based out of health facilities
Pilot of pre-referral treatment of severe malaria at the community	MCHIP (with Kinshasa School of Public Health)	250,000	TBD	Conduct pilot of pre-referral treatment at community level to inform national policy and program strategies
Assessment and strengthening of supply chain management for drugs and RDTs	SPS	800,000	West Kasai, East Kasai, Katanga and South Kivu	Contribute to on-going SPS-support activities for supply chain management and addressing stock-outs; test storage conditions (temperature, humidity) for drugs and RDTs
Build capacity to provide community case management with ACTs	New RFA	500,000	West Kasai, East Kasai, Katanga and South Kivu	Identify, train, equip and supervise the <i>relais communautaires</i> in targeted health zones to provide community case management
<b>SUBTOTAL: Treatment</b>		<b>\$10,900,000 (\$7,100,000)</b>		
<b>TOTAL: Case Management</b>		<b>\$12,300,000 (\$7,800,000)</b>		
<b>MONITORING AND EVALUATION</b>				
Insecticide resistance monitoring	IVM (with INRB)	100,000	West Kasai, East Kasai,	Follow up to FY 2010 species identification and insecticide-resistance monitoring

<b>Proposed Activity</b>	<b>Mechanism</b>	<b>Budget (<i>commodities</i>)</b>	<b>Geographic area</b>	<b>Description of activity</b>
			Katanga and South Kivu	
Provide training for central and provincial-level NMCP staff in data collection, analysis, quality control and use for program decision making	Measure Evaluation	250,000	National (NMCP), West Kasai and East Kasai	Provide training for central and provincial-level NMCP staff in data collection, analysis, quality control and use for program decision making. Include an evaluation of the computer network system used by NMCP nationally
Support DHS 2012	Measure DHS Phase III	500,000	Nationwide	Preparations and planning for the 2012 nationwide DHS, which will include complete malaria module and biomarkers
Monitoring and evaluation technical assistance	CDC IAA	25,000	TBD	Assist national M&E planning, support capacity building for routine data management
<b>TOTAL: Monitoring and Evaluation</b>		<b>\$875,000 (\$0)</b>		
<b>CAPACITY BUILDING</b>				
Continue support to national and provincial malaria task force committees	C-Change	100,000	Nationwide and provincial	Support multi-partner National Malaria Task Force at the central and provincial levels, including meetings, report dissemination, support to technical assistance for coordination, annual review
Facilitate annual reviews and assessments of LLIN campaigns	C-Change	50,000	West Kasai, East Kasai, Katanga and South Kivu	Facilitate provincial-level participation in annual reviews and assessment of past LLIN campaign experiences in other provinces to gain lessons learned for future planned campaigns

<b>Proposed Activity</b>	<b>Mechanism</b>	<b>Budget (<i>commodities</i>)</b>	<b>Geographic area</b>	<b>Description of activity</b>
Support to WHO Technical Advisor	WHO	75,000	Nationwide	Strengthen the capacity of the NMCP at the national level in strategic planning, policies, guidelines and M&E planning through support for a WHO Technical Advisor
<b>TOTAL: Capacity Building</b>		<b>\$225,000 (<i>\$0</i>)</b>		
<b>IN-COUNTRY MANAGEMENT AND ADMINISTRATION</b>				
In-country staff and administrative expenses	USAID/CDC	1,900,000	NA	Salary ,benefits and related administrative costs for USAID and CDC Malaria Advisors and one or more Locally-hired employees as well as Mission and Embassy ICASS costs
<b>TOTAL: Management and Administration</b>		<b>\$1,900,000 (<i>\$0</i>)</b>		
<b>GRAND TOTAL</b>		<b>\$37,000,000 (<i>\$28,200,000</i>)</b>		

\* Global Fund round 8 supports 10 out of 80 USAID health zones

**Table 2**  
**President's Malaria Initiative – Democratic Republic of Congo**  
**Year 1 (FY 11) Budget Breakdown by Partner (\$37,000,000)**

<b>Partner Organization</b>	<b>Geographic Area</b>	<b>Activity</b>	<b>Budget</b>
New RFA (IHP)	West Kasai, East Kasai, Katanga, South Kivu	- Training of facility- and community-based health workers in case management and malaria prevention - Supervision of health workers - Training of laboratory technicians in use of RDTs with a focus at the health zone level	\$3,600,000
C-Change	West Kasai, East Kasai, Katanga, South Kivu	- Communications for campaigns - Revision of training materials - IEC/BCC for malaria in pregnancy - National Malaria Task Force support - Review and assessment of campaigns	\$1,075,000
Measure Evaluation	NMCP, West Kasai and East Kasai	- Training for central and provincial-level NMCP staff	\$250,000
SPS	West Kasai, East Kasai, Katanga, South Kivu	- Assessment and strengthening of supply chain management	\$800,000
DELIVER	West Kasai, East Kasai, Katanga, South Kivu	- Procurement of LLINs, ACTs, RDTs, Severe malaria drugs and laboratory supplies	\$12,200,000
IMaD	West Kasai, East Kasai, Katanga, South Kivu	- Support to reference laboratories	\$200,000
Measure DHS	Nationwide	- Preparation for DHS	\$500,000
IVM	West Kasai, East Kasai, Katanga, South Kivu	- Insecticide resistance monitoring	\$100,000
MCHIP	TBD	- Pilot of pre-referral for treatment of severe malaria	\$250,000
UNICEF	Katanga	- Procure LLINs for campaign	\$16,000,000
WHO	Kinshasa	- WHO malaria technical advisor	\$75,000
USAID	Nationwide	- Staff, administrative and management costs	\$985,000
CDC	Nationwide	- Staffing and technical support	\$965,000
<b>TOTAL</b>			<b>\$37,000,000</b>