This Malaria Operational Plan has been endorsed by the U.S. Global Malaria Coordinator and reflects collaborative discussions with the national malaria control programs and partners in country. If any further changes are made to this plan, it will be reflected in a revised posting.

PRESIDENT'S MALARIA INITIATIVE

Malaria Operational Plan – FY2012

ZIMBABWE

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ACRONYMS AND ABBREVIATIONS

ACT	Artemisinin-based combination therapy
AMFm	Affordable Medicines Facility-malaria
ANC	Antenatal care
AS/AQ	Artesunate-amodiaquine
CDC	Centers for Disease Control and Prevention
CHW	Community health worker
DDT	Dichloro-Diphenol-Trichloroethane
DHS	Demographic and Health Survey
DOT	Directly observed therapy
FANC	Focused Antenatal Care
FBO	Faith-Based Organization
FY	Fiscal Year
Global Fund	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GMP	Global Malaria Program
GoZ	Government of Zimbabwe
HBMF	Home-based management of fever
HMIS	Health Management Information System
IDSR	Integrated Disease Surveillance and Response
IEC/BCC	Information, education, communication/behavior change communication
IPTp	Intermittent preventive treatment of pregnant women
IRS	Indoor residual spraying
ITN	Insecticide-treated net
LLIN	Long-lasting insecticide-treated net
MCAZ	Medicine Control Authority of Zimbabwe
MCH	Maternal and Child Health
M&E	Monitoring and Evaluation
MoHCW	Ministry of Health and Child Welfare
NGO	Non-governmental organization
NMCP	National Malaria Control Program
NSA	Global Fund National Strategy Application
NTD	Neglected Tropical Disease
PERSUAP	Pesticide Evaluation Report and Safer Use Action Plan
PMI	President's Malaria Initiative
PSI	Population Services International
QA/QC	Quality control/quality assurance
RBM	Roll Back Malaria
RCC	Rolling Continuation Channel
RDT	Rapid diagnostic test
SP	Sulfadoxine-pyrimethamine

UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
WHT	Ward health team

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 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 programs. The PMI was launched in June 2005 as a five 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 by 2010. With passage of the 2008 Lantos-Hyde Act, funding for PMI has now been extended through FY2014 with the goal of reducing malaria-related morbidity and mortality by 70% compared to pre-initiative levels in the original 15 PMI countries. Programming of PMI activities follows 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.

In mid-2011, Zimbabwe's selection as a PMI country was announced, with full implementation beginning with FY 2011 funding. Malaria is a major health problem in Zimbabwe, although its epidemiology varies in the different regions of the country. The three malaria transmission zones in the country are: perennial transmission in the lowland areas in the North and South; seasonal transmission, prone to epidemics in the mid-level altitudes in the North and South; and relatively no malaria transmission in the high altitude areas in the center band of the country.

Zimbabwe's malaria program receives support from the following donors: Global Fund, the World Health Organization, (WHO), UNICEF, the United Kingdom Department for International Development (DfID), the European Commission and private sector entities. USAID also provided support to Zimbabwe's National Malaria Control Program (NMCP) through an emergency round of IRS in 2009 and in 2011 with a procurement of malaria commodities. The FY 2012 Malaria Operational Plan was developed in collaboration with the NMCP and aligns well with the National Malaria Control Strategy. Planning for FY 2012 was carried out in Zimbabwe in July 2011 and included representatives from USAID and CDC staff based in Washington, Atlanta, and Zimbabwe. The proposed FY 2012 PMI budget for Zimbabwe is $12 million.

The following major activities will be supported with FY 2012 funding:

Insecticide-treated nets (ITNs): PMI is supporting the Ministry of Health and Child Welfare's (MOHCW) goal of universal coverage of long lasting insecticidal nets (LLINs) in the 30 high-burden malaria districts with moderate to high transmission of malaria. PMI will support free mass distribution campaigns to achieve equitable coverage as well as free routine distribution

through antenatal care (ANC) and immunization clinics to pregnant women and children under one year old.

With FY2012 funding, PMI will procure approximately 500,000 LLINs for free mass and routine distribution to complement the Global Fund procurement of 800,000 LLINs.

Indoor residual spraying (IRS): Zimbabwe has a history of IRS dating back to the 1950's. The NMCP IRS strategy focuses on 45 high burden malaria districts throughout the country. With FY2012 funding, PMI will support IRS operations for approximately 1 million rooms in 17 districts in the three provinces of Manicaland, Mash East and Mash West. Funding will cover the procurement of insecticides and equipment for spray operations, along with training implementation, and environmental compliance for IRS implementation.

Intermittent preventive treatment of pregnant women (IPTp): Zimbabwe's malaria in pregnancy policy focuses on the 30 high-burden malaria districts, and advocates for directly observed administration with three doses of sulfadoxine-pyrimethamine (SP). With FY2012 funding, PMI will support the NMCP by procuring approximately 1 million treatments of SP. Funding will also be used to improve quantification of SP in an effort to minimize stock outs.

Case management: Since 2007 the first-line treatment for malaria in Zimbabwe is the artemisinin-based combination therapy, artemether-lumefantrine. The NMCP policy requires that, where possible, all cases of malaria be diagnosed by microscopy or a rapid diagnostic test (RDT). The exception is if there is a stock out of RDTs, then clinical symptoms and history is used to make diagnosis. At the end of 2010, the pharmacy board and the laboratory regulatory council changed the policy to allow community-based health workers perform RDTs and dispensing ACTs, for positive cases.

With FY 2012 funding, PMI will support the training of health facility workers and community health workers to improve case management of malaria. PMI will procure 1 million ACTs and 1.3 million RDTs, and strengthen the supply chain management system. PMI will also collaborate with the NMCP and other partners to improve drug quality control monitoring.

IEC/BCC: Zimbabwe's 2008-2013 National Malaria Communication Strategy document utilizes advocacy, social mobilization and behavior change communication (BCC) for malaria prevention and control through traditional and religious community leaders and community volunteers organized into ward health teams (WHT). While WHT cover several health issues, community malaria committees focus on interpersonal communication of malaria messaging. The NMCP uses WHTs and community malaria committees to promote IRS campaigns and raise awareness about LLIN distribution and use.

In FY 2012, PMI will work with the NMCP and partners to strengthen IEC/BCC approaches for malaria prevention and treatment. PMI will be a major contributor to IEC/BCC activities supporting universal LLIN coverage and IRS, and will also collaborate in activities to improve malaria treatment-seeking and prevention behaviors.

Monitoring and evaluation (M&E): The NMCP, with the support of Global Fund and other partners, has developed a National Malaria M&E Strategy and Plan. This plan covers 2008-2013, and describes by program area the type of data needed, the indicators, data collection and flow, analysis, reporting, feedback and stakeholders' responsibilities.

With FY 2012 funding, PMI will strengthen M&E nationally by supporting training from the provincial level down to the primary health facility level. Training will be co-funded with Global Fund, and will include malaria stratification, improved reporting quality, epidemic surveillance and epidemic detection/ response. PMI will also support the end use verification tool to periodically assess the availability of malaria commodities in health facilities.

A. INTRODUCTION

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) to reduce the burden of disease and promote healthy communities and families around the world. Through the GHI, the United States will 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. Framed within the larger context of the GHI and consistent with the GHI's overall principles and planning processes, BEST (Best practices at scale in the home, community and facilities) is a USAID planning and review process that draws on our best experience in Family Planning, Mother and Child Health and Nutrition to base our programs on the best practices to achieve the best impact.

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 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 and, as part of the GHI, the goal of the PMI has been adjusted to reduce malaria-related mortality by 70% in the original 15 countries by the end of 2015. This will be achieved by continuing to scale up 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).

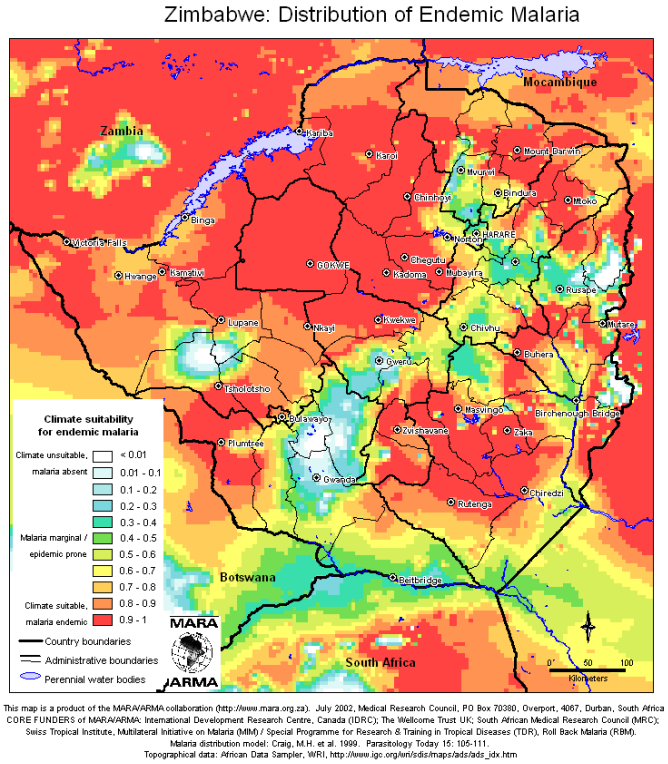
Zimbabwe was selected as a PMI country in FY 2011, but USAID has previously provided limited malaria support, including funding and technical assistance to conduct emergency IRS in 2009, and an emergency procurement of ACTs in 2011. Historically, Zimbabwe has had a solid IRS program dating back since the 1950's; the use of ITNs is relatively new to the country. The NMCP has introduced ACTs, RDTs and IPTp nationwide, but training for health workers is still on-going in some areas.

This FY2012 Malaria Operational Plan presents a detailed implementation plan for Zimbabwe, based on the PMI Multi-Year Strategy and Plan, and the National Malaria Control Program's (NMCP's) five year National Malaria Control Strategy. It was developed in consultation with Zimbabwe's NMCP, with participation of national and international partners involved with malaria prevention and control in the country. The activities PMI is proposing to support align with the 2008-2013 National Malaria Control Strategy, and build upon investments made by other partners to improve and expand malaria-related services. This document briefly reviews the current status of malaria control policies and interventions in Zimbabwe, identifies challenges and unmet needs if the targets of the NMCP and PMI are to be achieved, and provides a description of planned FY2012 activities.

B. MALARIA SITUATION IN ZIMBABWE

Zimbabwe, one of the southernmost PMI-supported countries, has a large seasonal and geographic variation in malaria transmission.

Figure 1: Distribution of malaria in Zimbabwe



This map is a product of the MARA/ARMA collaboration (http://www.mara.org.za). July 2002, Medical Research Council, PO Box 70380, Overport, 4067, Durban, South Africa
CORE FUNDERS of MARA/ARMA: International Development Research Centre, Canada (IDRC); The Wellcome Trust UK; South African Medical Research Council (MRC);
Swiss Tropical Institute, Multilateral Initiative on Malaria (MIM) / Special Programme for Research & Training in Tropical Diseases (TDR); Roll Back Malaria (RBM).
Malaria distribution model: Craig, M.H. et al. 1999. Parasitology Today 15: 105-111.
Topographical data: African Data Sampler, WRI, http://www.igc.org/wri/sdis/maps/ads/ads_idx.htm

The main malaria transmission season is during the rainy season, which extends from November to April, when the average temperature ranges between 18 and 30 degrees Celsius. The annual rainfall varies from less than 700 mm in Matabeleland North to more than 1,500 mm in Manicaland. During the dry winter months temperatures drop to between 10 and 25 degrees Celsius and there is little malaria transmission.

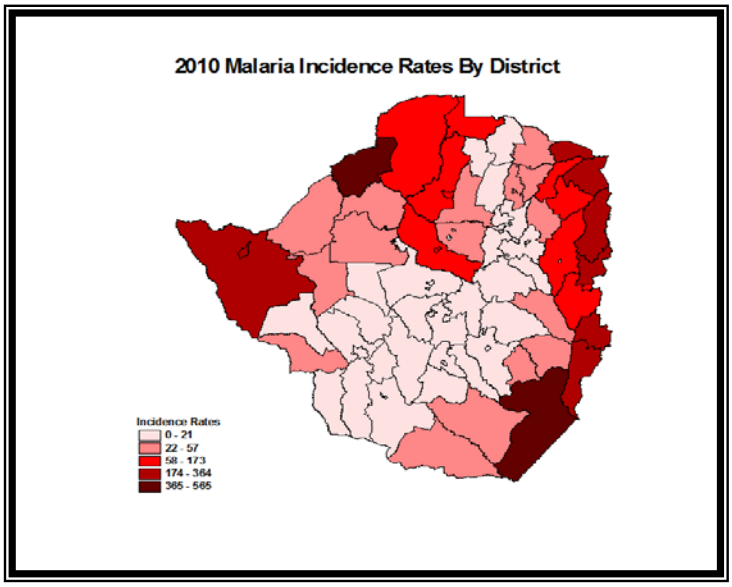
Figure 2: Altitude zones of Zimbabwe

Geographically Zimbabwe is divided by a central watershed lying above 1200 meters above sea level and flanked north and south by low lying areas. The country can be divided into three epidemiological malaria areas: 1) Areas below 900 meters to the north and below 600 meters in the south where perennial transmission occurs; 2) areas between 900-1200 meters north and 600-900 meters in the south with seasonal transmission, and occasional epidemics; and areas above 1200 meters north and 900 meters in the south where malaria transmission did not normally occur.

Zimbabwe is divided into ten provinces, 62 rural districts and 1,200 wards. Forty-five districts are considered malarious, with 33 categorized as high burden districts. The total population estimates vary according to source, and are difficult to estimate because of the large recent diaspora. The current estimate is approximately 12.5 million persons, extrapolated from the 2002 census. The 2002 malaria stratification estimated that about half the population was living in areas at some risk of malaria.

Malaria transmission varies across Zimbabwe, with high to moderate transmission in northern and eastern provinces bordering Zambia and Mozambique, and low transmission in southern provinces bordering South Africa and Botswana. The map below shows the 2010 malaria incidence rates by district.

Figure 4: Incidence rates by district, 2010



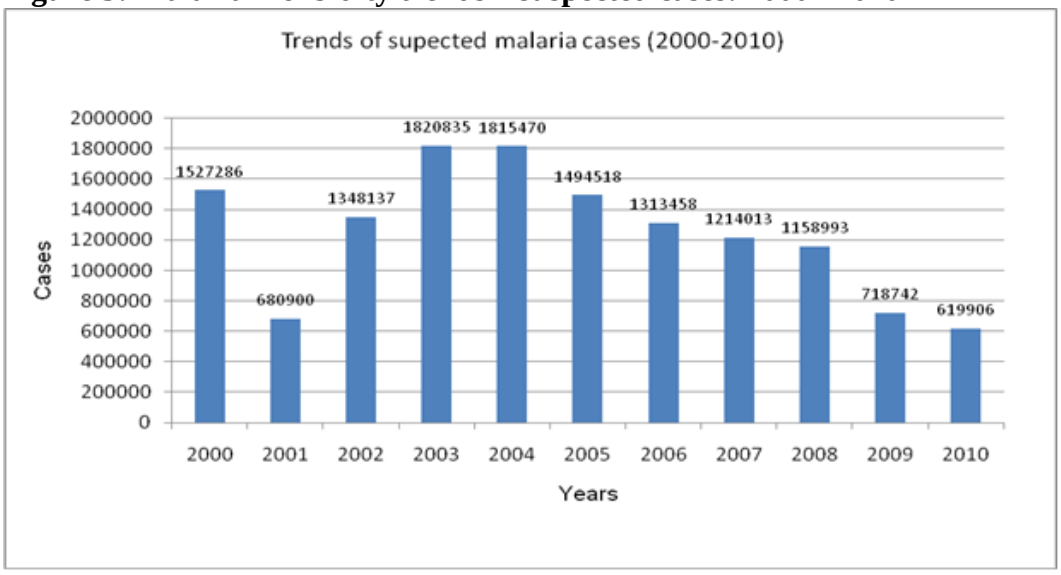
Malaria burden

Overall malaria trends in Zimbabwe appear to be decreasing, while it still remains a major challenge in certain districts and wards. According to the 2011 RBM/WHO Malaria Program Review, malaria incidence decreased from 1.8 million cases in 2006 to about 600,000 in 2010, butt is unclear how much of this decrease in reported cases is due to the diaspora, a drought, weakened surveillance system, poor reporting, or malaria interventions such as an increased use of RDTs.

In the early 1990's, malaria accounted for 30% of all out patient attendances,

12% of hospital admissions and was the second largest cause of morbidity in Zimbabwe. Outpatient department malaria cases decreased from 14% in 2005 to 9% in 2009; inpatient malaria cases declined from 10% to 8% between 2005 and 2008. Malaria deaths as a proportion of all inpatient deaths decreased from 7% in 2003 to 3% 2008.

Figure 5: Malaria morbidity trends – suspected cases: 2000 - 2010[1]



Note that the 2001 drop in cases was attributed to "industrial action" among health workers that paralyzed the health system. Since 2008 there has been no inpatient morbidity and mortality data due to problems in data submission and computer software changes. By December 2010, Zimbabwe's malaria incidence rate was 49 cases per 1,000, a decline of almost 64% from the 2000 level.

Plasmodium falciparum accounts for 98% of all reported malaria cases; *P. ovale* and *P. malariae* account for the remaining 2%. The major malaria vector is *Anopheles arabiensis,* while generally *An. gambiae* is not reported. *An. quadriannulatus,* a member of the *An. gambiae complex,* is commonly found in Zimbabwe. *An. quadriannualtus* is zoophilic (prefers to feed on animals rather than humans) and, therefore, not a malaria vector, but is morphologically identical to *An.arabiensis and An. gambiae s.s.,* and sometimes causes confusion in entomological monitoring. A fourth member of the complex, *An. merus* which is a vector in coastal areas of eastern Africa, has also been reported in Zimbabwe; its role in malaria transmission is unclear.

National Malaria Control Plan and Strategy

The NMCP is located within the Ministry of Health and Child Welfare (MoH&CW) under the Department of Epidemiology and Disease Control. The NMCP is led by a Malaria Control Manager, and is supported by a team of senior officers comprised of: case management focal officer, monitoring and evaluation officer, vector control officer, finance and administration officer and a BCC/IEC Officer. At the provincial level, the Provincial Medical Director (PMD) is responsible for all health-related activities including malaria control, and has a team comprised

[1] National Health Information System, Ministry of Health and Child Welfare (2011).

of managers responsible for Epidemiology and Disease Control, nursing services, environmental health, administration, nutrition, health promotion and pharmacy. At the district level, the district health executive is led by the District Medical Officer (DMO), who is responsible for malaria activities and works with ward health teams (WHTs) to coordinate and execute implementation.

The NMCP collaborates with diverse partners and has important linkages with the following parastatal organizations:

- the National Pharmaceutical Company of Zimbabwe (NatPharm), which is responsible for the procurement, storage and distribution of all health commodities, including malaria commodities;
- the Medicine Control Authority of Zimbabwe (MCAZ), which is responsible registration of all medicines in the country;
- Zimbabwe National Quality Assurance Programme (ZINQAP) which is responsible for the external quality assurance aspects of all the laboratories in the country; and
- National Microbiology Reference Laboratory (NMRL) which is responsible for internal quality assurance of laboratory diagnosis services.

At the national level, the NMCP develops policy, national guidelines, manuals and training materials. The national level also oversees implementation, monitors disease trends, mobilizes resources and coordinates partnerships. A large majority of the NMCP positions in Harare are supported by donors, primarily the Global Fund. The Provincial Health Executive Committee (PHE) oversees malaria interventions at the provincial level and supervises all the districts in that province. One member of the PHE, the Provincial Malaria Focal Person is supported by the Global Fund; the rest receive allowances from the Zimbabwe Health Worker Retention Scheme. The structure at the district level mirrors the provincial level structure with a District Health Executive. With the exception of the Environmental Health Officer, who manages IRS activities, there is no specific malaria focal person at the district level.

There are approximately 1,400 primary health facilities in Zimbabwe. They are staffed by nurses, Environmental Health Technicians and nurse aides. Linked to each primary health facility is a ward health team (WHT) comprised of community members such as community-based health workers, school health masters, headmen, chiefs, religious leaders, etc. The WHTs are responsible for overseeing program implementation in conjunction with the health facility staff. The WHT members are volunteers, although some community based health workers receive money from the Global Fund Round 8 grant.

The Government of Zimbabwe (GoZ) and partners fund the malaria program. The budget is done annually, based upon district annual plans which are then consolidated at the provincial and national levels.

Table 1: Malaria-specific funding 2007-2011

Partners	2007	2008	2009	2010	2011
GOZ*	$600,000	$850,000	$1,400,000	$1,200,000	$1, 000,000
Global Fund	6,800,000	2,100,000	11,320,000	24,500,000	2,600,000
WHO	-	-	1,200,000	-	-
UNICEF	150,000	320,000	450,000	25,000	-
USAID	-	-	200,000	-	1,000,000
DFID	-	-	300,000	-	-
Private Sector	60,000	47,250	60,000	20,000	12,500
Total	**$7,610,000**	**$3,317,250**	**$14,930,000**	**$25,745,000**	**$4,612,500**

* The GoZ line item for 2007 and 2009 includes activities funded in foreign currency only; it does not include human resource and infrastructure maintenance related costs.

In addition to the above financial assistance, several local and international NGOs support malaria control activities, including European Commission funding which supported malaria activities through Plan Zimbabwe.

The NMCP's National Strategic Plan was recently updated and covers 2008-2013. The vision is a malaria-free Zimbabwe, and the goal is to "reduce malaria incidence from 95/1,000 in 2007 to 45/1,000 by 2013 and a case fatality rate from 4.5% in 2007 to 2.5% in 2013." The five key approaches to the National Strategy include:

- Universal access to malaria prevention and personal protection with: 90% of the population at risk covered by IRS and ITNs, and 85% coverage of IPTp2 for pregnant women attending antenatal care in medium-high transmission areas
- Improved diagnosis and treatment of both uncomplicated and severe malaria.
- Improved detection and timely control of malaria epidemics, by detecting at least 95% of malaria epidemics within two weeks of onset.
- Strengthened community and other stakeholder participation to maximize achievement of universal access to malaria control interventions.
- Improved partnership coordination, financial and human resources management and malaria surveillance monitoring. [2]

The Zimbabwe NMCP participates in several sub-regional and cross border initiatives. The program is an active partner with the RBM Southern Africa Regional Network (SARN) and with the Southern African Development Community (SADC) malaria network. There are also four cross-border malaria initiatives; Zimbabwe (Matabeleland South Province) and South Africa; the Trans-Zambezi Malaria Initiative (among Zimbabwe, Zambia, Namibia and Botswana); MOZIZA (Mozambique, Zimbabwe and Zambia); and Zimbabwe (Manicaland) – Mozambique.

[2] National Malaria Control Strategy 2008-2013, Ministry of Health and Child Welfare Zimbabwe.

C. CURRENT STATUS OF MALARIA INDICATORS

The most recent Demographic Health Survey (DHS) was carried out from September 2010 to March 2011. The United Nations Children's Fund (UNICEF) conducted a Multiple Indicator Monitoring Survey (MIMS) from August to October 2009. UNICEF is planning to implement the next MIMS in either 2013 or 2014 to measure progress towards Millennium Developmental Goals.

Zimbabwe has achieved steady gains in many key malaria indicators. Between the 2005 and 2010 ITN ownership and use increased significantly (Table 1). However, IPTp2 and the proportion of children under five with fever receiving antimalarial treatment remain low, demonstrating that efforts to scale up interventions must continue for Zimbabwe to achieve the Roll Back Malaria (RBM), PMI and national targets.

The 2010 DHS shows ITN ownership averaged 29% for the country compared to 9% in 2005. ITN ownership in rural areas was 32% compared to 23% in urban households. Among households owning at least one ITN, 41% of children under five in urban areas and 27% in rural areas reported sleeping under an ITN the previous night. Among pregnant women in households owning at least one ITN, 37% in urban areas and 28% in rural areas slept under an ITN the previous night. In 2010, 17% of all households had been sprayed with a residual insecticide in the past 12 months; 24% of rural households and 4% of urban households had been sprayed.

Table 2: Zimbabwe malaria indicator estimates (2010/2011 DHS)

Indicator	2005/06 DHS	2009 MIMS	2010/11 DHS
Proportion of households with one or more ITN	9%	27%	29%
Proportion of children under five years old who slept under an ITN the previous night	4%	17%	10%
Proportion of pregnant women who slept under an ITN the previous night	NA	NA	10%
Proportion of women who received two or more doses of IPTp during their last pregnancy in the last two years	NA	NA	7%
Proportion of children under five years old with fever in the last two weeks who received treatment with ACTs	5%	14%	2%

D. GOAL AND TARGETS OF THE PRESIDENT'S MALARIA INITIATIVE

The goal of PMI is to reduce malaria-associated mortality by 70% compared to pre-Initiative levels in the 15 original PMI countries and to reduce malaria-associated mortality by 50% in the three new countries added to the PMI in FY2010 and later. By the end of 2014, PMI will assist Zimbabwe to achieve the following targets in populations at risk for malaria:

- >90% of households with a pregnant woman and/or children under five will own at least one ITN;
- 85% of children under five will have slept under an ITN the previous night;
- 85% of pregnant women will have slept under an ITN the previous night;
- 85% of houses in geographic areas targeted for IRS will have been sprayed;
- 85% of pregnant women and children under five will have slept under an ITN the previous night or in a house that has been sprayed with IRS in the last 6 months;
- 85% of women who have completed a pregnancy in the last two years will have received two or more doses of IPTp during that pregnancy;
- 85% of government health facilities have ACTs available for treatment of uncomplicated malaria; and
- 85% of children under five with suspected malaria will have received treatment with ACTs within 24 hours of onset of their symptoms.

E. EXPECTED RESULTS

Expected Results – FY 2012

Prevention:

1. PMI will support IRS in three provinces, protecting a population of approximately 1.5 million people.

2. PMI will procure and begin the free distribution of approximately 450,000 LLINs in the 30 districts targeted for universal coverage in Zimbabwe. Approximately 75% of the LLINs will be distributed during the mass campaign, and the remaining distributed routinely.

Case management:

1. PMI will procure approximately 1 million ACT treatments for distribution to primary health facilities throughout the country.

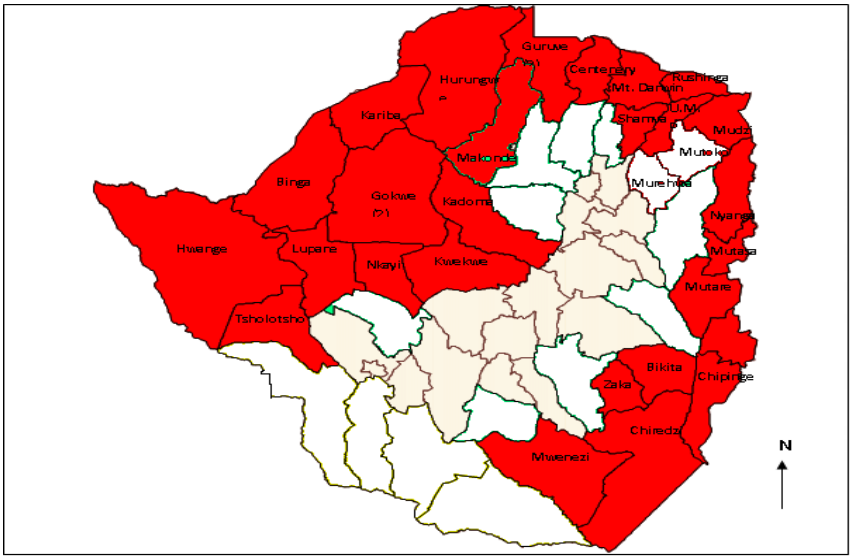
2. PMI will procure approximately 1.3 million RDTs for distribution to primary health facilities.

F. PREVENTION ACTIVITIES

Insecticide-treated nets (ITNs)

Background

Figure 6: Targeted LLIN districts since 2009



Zimbabwe's National Strategy calls for universal coverage with LLINs in moderate to high transmission areas which includes 30 districts (Figure 6). Universal coverage is defined as either one net for every two people or at least three nets per household with specific targets to: 1) increase the proportion of the general population sleeping under an LLINs to 80%, 2) increase household ownership of at least three LLINs to 100%, and 3) increase the number of children under five and pregnant women sleeping under an LLINs to 85% by 2015. The NMCP supports a mixed model of ITN distribution that includes public health facilities, community-based fixed point campaigns, and door-to-door campaigns. However, currently the NMCP relies solely on distribution through mass campaigns (fixed point and door-to-door). A system for routine distribution of LLINs through public health facilities has not yet been implemented but is part of the National Strategy.

From 2008 to 2010 a total of 1.9 million LLINs were distributed free to targeted communities. The LLINs distributed in 2010 are estimated to cover 83% of the population, in the 30 targeted districts, assuming that one LLIN is shared between two people. The majority of these LLINs were distributed through mass campaigns using public health facilities as distribution points. Before each distribution cycle, a census is completed to assess the number of individuals in the home. The ITN/LLIN requirements for each household are then calculated using one LLIN per two persons.

According to the Zimbabwe 2010-2011 DHS conducted in 2010-11, 28% of households owned at least one ITN and 41% owned any type of net (treated or untreated). The survey found that 10% of children under five and 10% of pregnant women slept under an ITN the previous night.

Global Fund Round 8 has been the primary development partner providing technical assistance for ITN procurement and distribution. Global Fund Round 8 procured 1,219,309 LLINs and

UNITAID procured 640,557 LLINs in 2009. The following table outlines the LLINs procured and expected:

Table 3: LLINs delivered and pledged by donor

Donor	2011 (procured)	2012 (pledged)	2013 (pledged)
Global Fund	000	000	800,000
PMI	000	500,000	500,000
UMCO	20,000		
Total	20,000	500,000	1,300,000

Universal coverage in Zimbabwe is expected to be achieved by 2013. With FY2011 funds, PMI plans to procure approximately 500,000 LLINs. The majority of these LLINs will be used to meet the universal coverage targets and the remainder will be distributed through the routine system to the new cohort of pregnant women and infants estimated at 4% of the population and to begin the process of replacing worn out nets.

In calculating a net gap for Zimbabwe, the net information above and information on population growth and number of nets per person were entered into the PMI LLIN need/gap calculator. A small surplus of approximately 440,000 LLINs is anticipated for the 2013 season to provide a buffer for variations in population growth and to maintain stock requirements at the provincial, district, and facility levels for routine distribution mechanisms.

Table 4: LLIN needs/gap calculator based on number of persons protected

Criteria if using nets per person	Country data
At-Risk Population 2012	**4,000,000**
Expected annual population growth	**2.86%**
Average number of persons per net	**2.0**
Distributed LLINs	
Distributed LLINs in 2010	**1,219,309**
Distributed LLINs in 2011 as of July 2011	**0**
Additional pledged for distribution in 2011 & 2012	**520,000**
Pledged LLINs	
Pledged LLINs in 2012 for distribution in 2013	**1,300,000,**
Pledged LLINs in 2013	
Pledged LLINs in 2014	

Calculations for 2013

Population at risk in 2013	**4,114,400**
Total number of LLINs needed	**2,057,200**
Nets distributed plus pledged	**1,820,000**
LLIN gap or (surplus)	**237,200**

Proposed Activities with FY2012 Funding: *($3,900,000)*

PMI support for LLIN procurement and distribution in the FY2012 MOP will target LLIN procurement and distribution to cover the new cohort of pregnant women, replace worn out LLINs, and maintain keep-up through routine systems.

1. *Procure LLINs for routine replacement and keep-up distribution:* Procure approximately 500,000 LLINs for distribution through mass campaigns and routine ANC and child welfare clinics to maintain coverage of vulnerable populations. Geographic targeting will depend on previous campaign results, the status of improvements to routine distribution systems rollout, and MOH guidance. *($3,500,000)*

2. *Planning, logistics, distribution, and evaluations for mass LLIN campaigns and strengthened routine LLIN distribution systems:* PMI will provide support to the NMCP in logistics and operations to strengthen routine distribution systems and supply chain management to promote continuous availability of LLINs to people who need them and to strengthen the distribution systems capacity for efficient delivery of LLINs to end users. *($400,000)*

3. *Technical assistance for LLIN activities:* One technical assistance visit to support the NMCP in LLIN distribution activities. *(Costs included in core budget)*

Indoor Residual Spraying

Background

Zimbabwe has a long history of implementing IRS, dating back to 1949. Currently, the NMCP IRS strategy targets 45 districts. There is not yet an articulated strategy on the combination or balance of IRS and LLINs. There continues to be more confidence in the traditional IRS than in LLINs. The Zimbabwe Global Fund Round 10 quotes; "The MIS in 2008 provided information on the status of malaria control in Zimbabwe. One of the most telling statistics show that while knowledge of the causes of malaria is high (89%), only 4.5% of pregnant women and 9.2% of children under 5 slept under an ITN the previous night despite net ownership of approximately 34%." Thus, for the time-being, IRS will remain the mainstay of the vector control program. The program began spraying with BHC (an organochlorine related to DDT but no longer in use) then switched to the longer-acting DDT which was used until 1991, when it was replaced with pyrethroids. However after the switch to the shorter-acting pyrethroids there was a marked increase in reported cases, prompting the reintroduction of DDT in 2004. The program continues with a mix of DDT and pyrethroids, where DDT is used only in tobacco growing areas that use pyrethroids for agricultural purposes.

Due to financial constraints, the total number of rooms sprayed and population protected from 2001-2007 were below the targets as shown in the table below. From 2008 to 2010, resources from the Global Fund, the European Commission, DfID and USAID improved and IRS coverage expanded.

Table 5: Rooms sprayed and population covered 2001- 2010

Season	Target Rooms	Rooms sprayed	% Coverage	Target Pop	Pop protected	% Pop. Protected
2001	1,191,950	762,848	64	1,602,334	1,229,798	33
2002	2,235,151	680,577	30	4,732,872	1,022,603	44
2003	2,235,151	284,128	28	4,732,872	435,748	20
2004	2,175,026	1,350,403	62	3,373,034	2,031,509	60
2005	1,839,727	1,271,474	69	1,875,472	1,608,848	86
2006	1,764,368	1,212,572	69	2,920,561	1,659,393	57
2007	1,413,074	588,994	42	2,436,172	742,289	30
2008	1,111,663	958,045	85	1,630,915	1,242,346	80
2009	1,992,181	1,638,303	86	3,096,049	2,575,116	86
2010	2,255,318	2,023,159	90	3,478,413	3,090,289	89

IRS training is divided into three levels: Level I training for provincial managers; Level II training for IRS district managers; and Level III training for spray operators. The Zimbabwe NMCP uses training materials developed within the program itself, WHO training materials, and training materials developed by the major insecticide manufactures and vendors who sometimes provide technical assistance. In addition to hands on spraying implementation, training also includes materials on malaria epidemiology and entomology. Health and safety issues are also included in the IRS training, including the provision and use of personal protective equipment (PPE) and safe handling of pesticides. The training for district and provincial managers includes mosquito rearing, bio-assays and larviciding.

Table 6: IRS level 3 training (spray operators) from 2001 to 2010

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Target	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
Trained	829	1,019	538	482	381	918	*	918	1,030	1,154
Percent trained	74	91	48	43	34	82	*	82	92	103

*Missing data

Entomological monitoring in Zimbabwe has traditionally been a core part of the program. Conducted by several partners, technical support and coordination is provided by the National Institute of Health Research (NIHR), formerly the "Blair Institute". During the early 1990s,

vector mapping and vector bionomics were identified as priority activities along with insecticide susceptibility monitoring and bioassay assessments for IRS and LLIN deployments. A total of sixteen entomological monitoring sites in different parts of the country were planned with Global Fund support. Of these, eight sites are functional according to the 2010 annual report.

Results of susceptibility monitoring using the WHO tube assay are not currently available; however, there was extensive information available on wall bioassays of sprayed surfaces, using locally collected *An. arabiensis,* implying that the insecticides used were effective and properly applied by the spray operators.

Table 7: Bioassays conducted on sprayed surfaces (2007 to 2011)

Year	Insecticide	District	Months post spray	Range (%)	Mean mortality (%)
2011	DDT	Gokwe South	4	77-100	92
2010	Deltamethrin 5WP	Kwekwe	1	80-100	90
			2	80-100	94
2009	Deltamethrin 5WP	Beit Bridge	1	78-100	93
			2	100	100
			3	83-100	95
			4	88-100	97
			5	80-100	93
			6	84-100	97.7
2008	Lambda-cyhalothrin 10WP	Gokwe North	3	61.5-100	68.9
2007	Lambda-cyhalothrin CS	Gokwe South	2	51-80	74.5
			3	11.1-100	61.4

Similar to the wall bioassays for IRS, the following table shows *An. arabiensis* bioassays conducted on ITNs and LLINs from 2008 to 2011 in various districts. While the range is quite broad, and the sample size not recorded, the program is attempting to monitor pyrethroid effectiveness on the nets.

Table 8: Bioassays conducted on ITNs/ LLINs (2006 to 2011)

Year	Insecticide	District	Months post treatment	Range (%)	Mean mortality (%)
2011	Permethrin (LLINs)	Gokwe South	8	60-100	90
2008	Permethrin (LLINs)	Gokwe South	15	50-100	100
		Gokwe North	17	50-100	63.3
			24	33.3-81.8	97.8
			15	50-100	98
			17	63.6-100	100
			17	10-42.5	76.3
			85	41-100	77.6
2008	Deltamethrin (ITN)	Gokwe South	1	100	100
	Deltamethrin (LLINs)		12	100	100

IRS is Zimbabwe's main vector control strategy. The deployment of ITNs and now LLINs is relatively new. There are also larval control operations using *Bacillus thuringensis israeliensis* (Bti) at the ward level, but this appears to be ad hoc and not rigorously implemented or evaluated.

At the national level, the Vector Control Subcommittee, including partners and vector control technical experts, meet quarterly, or more frequently during the spray season to provide guidance and a technical advice to the NMCP. There is a monitoring and evaluation framework to track inputs, outputs and outcomes of the spray operations itself and a related system for entomological monitoring. For the spray operations there is weekly and monthly reporting of standard indicators, including the proportion of the targeted rooms sprayed, the proportion of the targeted population protected and the refusal rates. The amounts of insecticide consumed, hours of labor and rooms sprayed per day are also monitored to assess resource utilization during spray operations.

Record keeping tools for IRS include weekly return forms, vouchers, stock cards and registers. The IRS teams, including the IRS coordinator, the data manager, spray operators (usually about 15 per team) and the community mobilizer use these standard data forms as they conduct their work. There is a new effort to employ mobile phones to transmit weekly reports to the district supervisor. Data is further collated by supervisors and summarized by the team IRS data managers to generate weekly and monthly reports at the ward level. Data is then collated at the district and province level and entered into an excel data base before being forwarded to the national-level NMCP. In addition to weekly performance review meetings held by the teams, the district- and provincial- level supervisors carry out regular supervision visits to the spray operations.

Proposed Activities with FY2012 funding: *($2,000,000)*

After discussions with the NMCP, PMI is proposing to concentrate on direct material support, in terms of training, insecticides and equipment and operational costs for contract workers (i.e. spray operators and other non-government workers) in 17 districts in the three most high-burden provinces: Manicaland, Mash East and Mash West. The NMCP has spayed these districts in the past, albeit with many financial, logistic and programmatic challenges. PMI support will ensure a high-quality and well-targeted operation, with good monitoring and pesticide management practices that will be a standard and help benefit those other 28 districts not receiving direct PMI commodity and operational support.

Details in of spray targets and coverage for these three provinces and totals for the other provinces are in the table below. While the other 28 Districts in five provinces will not receive direct PMI support for operations, they will be included in national-level IRS activities, such as higher-level training and technical assistance, planning and reviews.

Table 9: Provinces and Districts Proposed to receive direct PMI support for IRS

Province	District	Target Rooms	Target Population
Manicaland	Chipinge	100,639	135,304
	Mutare	94,967	116,687
	Mutasa	82,710	92,800
	Nyanga	71,974	94,972
	Chimanimani	62,192	76,922
	Buhera	39,651	73,841
	Makoni	46,214	56,949
Total		**498,347**	**647,475**
Mash East	Mudzi	88,088	138,774
	UMP	86,775	115,236
	Murewa	56,811	85,124
	Mutoko	89,337	131,136
Total		**321,011**	**470,270**
Mash West	Kariba	21,314	36,833
	Chegutu	17,228	23,304
	Hurungwe	47,742	137,058
	Kadoma	39,013	54,325
	Zvimba	19,830	25,851
	Makonde	48,442	67,396
Total		**193,569**	**344,767**
Total for 17 districts in 3 provinces		**1,012,927**	**1,462,512**

Table 10: Other Provinces supported by GOZ and Global Fund Round 8 not receiving direct PMI support for operations

Province	District	Target Rooms	Target Population
Mash Central	*8 Districts*	*306,203*	*496,021*
Mat South	5 Districts	141,514	196,190
Midlands	4 Districts	269,522	405,572
Mat North	6 Districts	282,424	542,106
Masvingo	5 Districts	242,728	403,012
Total	**28 Districts**	**1,242,391**	**2,042,901**

Specific activities to be supported by PMI in FY2012 include:

1. *Support spray operations:* PMI's direct support for IRS will concentrate in 17 high-burden districts in three provinces, covering a population of approximately 1.5 million. Support will include insecticide procurement of approximately $1 million, as well as other IRS equipment such as PPE, camping gear, spray pumps, spare parts and equipment for provincial-level pump repair workshops. The remaining funds will be to support spray operations in the 17 districts, including contract-labor (i.e. non-government employees) spray operators, camp guards and community mobilizers. The funds will complement GoZ contributions to IRS, including non-contract labor government staff. *($1,800,000)*

2. *Entomological Surveillance and Monitoring:* Zimbabwe plans to have sixteen entomological monitoring sites throughout the country, with the National Institute of Medical Research (NIMR) serving as a reference lab for molecular identification and determination of insecticide resistance mechanisms. Sixteen sites is above the standard in most PMI-supported programs and so a subset of these, approximately four in the three PMI – focus provinces will be the initial focus of PMI support. In addition, PMI will provide insecticide resistance monitoring equipment and training support to the central NIMR lab. One critical task is a comprehensive update of insecticide susceptibility status in Zimbabwe. While bioassays for IRS and the LLINs appear to be conducted on a fairly regular basis, there is a lack of recent information on susceptibility. *($200,000)*

3. Technical assistance to implement PMI IRS activities: One USAID technical assistance visit to support overall IRS operations, including enhanced insecticide resistance monitoring. *(Costs included in core funding)*

Intermittent Preventive Treatment of Pregnant Women

In 2007, the MOHCW commissioned a maternal and perinatal mortality study which showed that malaria was the fifth cause of maternal mortality in the preceding year, and 7.4% of the mortality was attributed to malaria. Of Zimbabwe's 62 rural health districts, 30 districts fall within moderate to high transmission areas, where the NMCP's malaria in pregnancy policy is applied. This policy was adopted in 2004 and implementation beginning that same year. The policy

states that only women living in moderate to high malaria transmission areas should receive IPTp. The program recommends three doses of sulfadoxine-pyrimethamine (SP) to be given at least four weeks apart with the first dose given at the sixteen week gestational age or after quickening, the second dose given between 26-28 weeks, and the third between 34-36 weeks of gestational age. The dose of SP is to be taken under direct health worker observation. One exception is that HIV positive pregnant women receiving cotrimoxazole prophylaxis are not to be given SP.

According to the Division of Reproductive Health of the MoHCW, 94% of pregnant women attend ANC at least once during their pregnancies, while 71% receive four visits with 68% health facility delivery[3]. However, a case management audit conducted in 2009 showed that only 46% of eligible pregnant women received IPTp1, with 28% and 19% respectively receiving IPTp2 and IPTp3. The shortage of SP at health facilities is a contributing factor to the low IPTp uptake. In the 2010-2011 ZDHS, the proportion of pregnant women in households with any type of bed net and who slept under any type of bed net was 37% for urban and 28% for rural areas; with the proportion of pregnant women who received any antimalarial for malaria prevention was 25% as compared to IPTp2 at 7%[4].

Since the adoption of the IPTp policy, several trainings in control of malaria during pregnancy have been conducted by the NMCP in collaboration with the Division of Reproductive Health for health workers in moderate to high transmission areas in control of malaria during pregnancy. During this period the ANC registers were updated to capture IPTp administration to pregnant women. Although a column exists in the new ANC registers to record IPTp administration, the non-systematic way of recording, combined with the fact that IPTp reporting is not required at the national level, make it difficult to follow the actual uptake of IPTp. The new data collection tool from the HMIS now requires districts and provinces to report on all IPTp doses administered. One problem facing the malaria in pregnancy implementation is the need to improve SP quantification, in order to procure adequate quantities and avoid stock outs. In 2010, because of the SP stock outs, donor support was necessary for an emergency procurement of SP. Another challenge is the need to clarify the districts practicing malaria in pregnancy, which will clearly define the denominator to calculate IPTp coverage. A small sample size study conducted by an MPH student in one of the districts showed SP being efficacious. PMI will support the NMCP in subsequent years to conduct a more comprehensive study on the efficacy of SP for its use in IPTp.

Proposed activities with FY2012 funding: *($30,000)*

1. *Procure SP*: PMI will support the NMCP to conduct a quantification of SP needs, and also procure approximately 1 million SP treatments. *($30,000)*

[3] Personal communication with Deputy Director for Reproductive Health, MoHCW, July 2011.
[4] Zimbabwe Demographic Health Survey, 2011.

2. *Support the training of health workers in malaria in pregnancy*: PMI will assist the NMCP to train health workers on malaria in pregnancy implementation and data collection. *(Costs included in case management training)*

G. CASE MANAGEMENT

Malaria Diagnosis

Zimbabwe has three cadres of laboratory staff: clinical scientists who are laboratory personnel with master's or doctorate level degree; general laboratory scientists with a bachelor's degree; and laboratory technicians who receive two years post high-school training at a polytechnic institute. A professional registry board, the medical laboratory and clinical scientist council accredits personnel before they can practice. Throughout Zimbabwe, there are five central hospitals, four urban district hospitals, eight provincial hospitals and sixty-two district hospitals which all have laboratories.

The Directorate for Laboratory Service exists at the national level of MOHCW. The Directorate is responsible for policy formulation and advising the Permanent Secretary on national laboratory issues. The Directorate also conducts refresher training of laboratory personnel to maintain professional standards. All activities conducted by the Directorate are done in collaboration with three national reference laboratories: the tuberculosis Reference Laboratory in Bulawayo, National Virology Laboratory at the medical school, and the National Microbiology Reference Laboratory in Harare. Through Global Fund support, enough microscopes were brought into the country under the tuberculosis program; the Ministry is also able to procure adequate quantities of reagents for malaria microscopy.

As of August 2010, the new NMCP policy for case management states that all suspected malaria cases should have parasitological confirmation done by microscopy or rapid diagnostic test (RDT) before prescribing an antimalarial drug. Exceptions to this policy are made in the case of a malaria epidemic, or a stock-out of diagnostic tests at the health facility. RDTs and/or microscopy are used for malaria diagnosis at all health facilities, with the exception of primary health facilities where only RDTs are available for diagnosis of malaria.

With Global Fund Round 5 support, the Zimbabwe National Quality Assurance Program (ZINQAP) provided external quality assurance and proficiency testing of laboratories on behalf of the NMCP. The ZINQAP is an independent institution with fifteen technical staff based in Harare. The ZINQAP conducts quarterly proficiency testing at the laboratories and conducts on-site visit twice a year to provincial and district laboratories. After each laboratory visit, a report of findings and recommendations is provided to the facility; a finalized report follows with

copies to the laboratory directorate, the provincial medical director and the facilities visited. Although Global Fund Round 8 and Round 10 do not include funding for ZINQAP, PEPFAR is using them for laboratory quality assurance. The ZINQAP works in close collaboration with staff from the National Microbiology Reference Laboratory, the medical schools and the laboratory technician schools. Starting October 2011, the ZINQAP plans to establish regional quality control offices in some provinces to facilitate more quality assurance visits to health facilities.

Proposed activities with FY2012 funding: *($1,382,000)*

Rapid and accurate malaria diagnosis is critical for effective case management and PMI will support the effort of the NMCP and the laboratory directorate to improve and maintain diagnostic capacity in the country. Below is the gap analysis for both ACTs and RDTs, which includes both the quantity and the USD value, as the freight and insurance is a percentage of the USD value. This analysis enables a more accurate picture of the funding contribution towards ACTs and RDTs.

Table 12: ACT and RDT Gap Analysis

	ACTs and RDTs Gap Analysis					
	Consumption Based					
		2011	2012	2013	2014	
	ACT Qty	1,200,000	1,104,000	1,015,680	934,426	
	ACT plus Buffer QTY	1,500,000	1,380,000	1,269,600	1,168,032	
	ACT price USD	1,350,000	1,242,000	1,142,640	1,051,229	
	Total cost (incl freight and insurance @20% of FCA)		1,490,400	1,371,168	1,261,475	
	ACT Commitment USD (GFATM)		273,758	234,517	252,903	
	ACT gap USD		1,216,642	1,136,651	1,008,571	
	RDT tests quantity	4,500,000	4,140,000	3,808,800	3,504,096	
	RDT price USD	2,025,000	1,863,000	1,713,960	1,576,843	
	Total cost (incl freight and insurance @20% of FCA)		2,235,600	2,056,752	1,892,212	
	RDT commitment USD (GFATM)		706,214	761,581	542,262	
	RDT Gap USD		1,529,386	1,295,171	1,349,949	
	Total RDT /ACT Gap USD		2,746,028	2,431,822	2,358,521	
	Total RDT /ACT Gap 2012-14 USD				7,536,370	
	Assumptions					
1	Preventative interventions (IRS, LLITNs) and effective case management will be fully implemented					
2	Community management of malaria scale up with VHW trainings and use of RDTs and ACTs					
3	Factored in a 25% buffer year on year. ACTS requirements could increase with rollout of community case management by VHWs					
4	Projected requirements in 2011 based on historical (2010) consumption data of 2010 ZIP deliveries					
5	Factored in a drop in consumption of ACTs of 8% 2012-2014 based on impact of interventions (NMCP).					
	It appears the projected magnitude of drop in malaria caseload and consumption of ACTs may not occur between 2012 and 2014					
6	Assume a ratio of 1:3 for ACT prescribed to number of RDT tests done.					

Specific activities are as follows:

1. *Procure RDTs for malaria diagnosis:* PMI will procure approximately 1.3 million RDTs. This is to complement what is being procured through the Global Fund. The RDTs will be used mainly at both the health facilities and at the community level. *($1,320,000)*

2. *Support quality control for diagnostics:* PMI will support the quality control for RDTs to improve malaria case detection. This activity will build upon existing quality assurance (QA) systems and help to build capacity. *($50,000)*

3. *Technical assistance visit:* by a CDC laboratory expert to provide technical support to the NMCP on malaria diagnostics, including RDT implementation. *($12,000)*

4. *Support the training of staff at health facilities:* on microscopy and RDTs, as appropriate. These topics are included in the malaria case management training, and the activity is co-funded with Global Fund. *(Costs included in case management training)*

5. *Support scale up of the training of village health workers*: on malaria case management and diagnosis using RDT. This activity will be co-funded with Global Fund. *(Costs included in case management training)*

Pharmaceutical and Commodity Management

Background

Historically, essential medicines and medical supplies, including malaria commodities, were managed by the Zimbabwe Essential Drugs Action Program (ZEDAP), with NatPharm responsible for the procurement, storage and distribution. This system was a traditional pull system, where primary health facilities would send their orders to the district, which would then consolidate orders and place them with the regional NatPharm branch. The economic crisis further undermined the underfunded system, which along with low product availability, inconsistent transportation/delivery system, weak reporting, poor communication, low staff morale with eroded salaries and brain drain, contributed to the decline. The result was frequent stock outs of many products, including malaria commodities.

In September 2009, the MOHCW with partners support began a pilot delivery system to improve tuberculosis and malaria drug distribution to primary health facilities and gather logistics data. The Zimbabwe Informed Push (ZIP) system is essentially a rolling warehouse, which stops quarterly at each primary health facility to assess the stock status, and then based on consumption data, stock on hand and losses/adjustments, tops the facility up to the maximum stock for all commodities. In case of excess stock, the ZIP team will re-distribute stocks within

the system. After six months of the ZIP system pilot, the MOHCW decided to roll out ZIP nationwide. The ZIP system reaches 1,534 primary health care facilities on a quarterly basis, and has achieved over 95% distribution coverage and reduced stock outs from greater than 30% to less than 5%[5]. By September 2010, ZIP system included the harmonized distribution of essential medicines and medical supplies included in the Primary Health Care Packages. The main partners currently supporting implementation of the ZIP/PHCP system are MOHCW, NatPharm, UNICEF, the USAID|DELIVER PROJECT and Crown Agents Zimbabwe.

As the economic situation steadies, Zimbabwe plans to shift back to a traditional NatPharm supported pull system. The MOHCW hopes to pilot a redesigned pull system in 2013 or 2014 , however the discussion is still in nascent stages. PMI plans to support the system redesign and once a plan to move forward is evident, PMI will be amenable to reprogramming funds, if necessary, to support this activity.

In addition to improving stock availability, the ZIP system captures real time logistics data with each visit to the primary health facilities. Previously, essential malaria logistics data was captured by filling out a paper-based Delivery Receipt Voucher. With partner support, automated Delivery Receipt Voucher software was developed for use on rugged laptops, which is currently being rolled out across the country.

Data collected by the automated software is migrated into Top Up software for analysis and to generate reports. The Top Up software has been in use since 2006, and has been upgraded to accommodate the expanding number of program commodities managed by the system (condoms, contraceptives, HIV rapid tests and other laboratory reagents and consumables, PMTCT drugs, ARV tuberculosis, malaria and essential medicines). Plans are also underway to integrate the LMIS with a warehouse management system, with support from various partners.

Quality assurance of pharmaceuticals of in Zimbabwe falls under the Medicine Control Authority of Zimbabwe (MCAZ). During the initial product registration process, samples are collected and tested. After a product is registered and distributed in Zimbabwe, post-marketing surveillance is routinely conducted by Nat Pharm, in collaboration with MCAZ. Sixteen ACT samples in 2009 and five ACT samples in 2010 were tested and all passed quality standards.

The Directorate of Pharmacovigilance and Clinical Trials falls under MCAZ, which also houses a pharmacovigilance committee with members from MCAZ, the Disease Prevention Programme, EPI staff, clinicians and other health professionals. Zimbabwe has an adverse drug reactions reporting system, which allows health care professionals to voluntarily report reactions on pharmaceutical products. At the district level, the Principal Medical Officer and District Nursing Officer are in charge of investigations related to adverse medical reactions. Other than the adverse drug reaction reporting via the health facilities, there is no routine system for the general population to report adverse reactions to medicines.

Proposed Activities with FY2012 Funding: *($380,000)*

[5] Overview of malaria commodities supply chain in Zimbabwe, USAID|DELIVER PROJECT, July 2011.

1. *Support the ZIPS distribution system*: PMI funding will support ZIPS operations to provide the approximately 1,400 health facilities with ACTs and RDTs for malaria case management. Funds will complement other ZIPs funding towards LMIS forms, reproduction, ZIPS Auto-DRV rollout and mop-up trainings, and delivery team support. *($380,000)*

Malaria Treatment

Background
In 2004, the NMCP changed the first-line treatment for uncomplicated malaria to ACTs, specifically artemether-lumafantrine (AL) but due to financial constraints an interim combination treatment of chloroquine plus sulfadoxine-pyrimethamine was put in place. When Zimbabwe was awarded the Global Fund Round 5 grant in 2007, they were able to procure AL and begin to train health workers on ACT administration. The first consignment of AL and RDTs arrived in December 2007. The alternative to AL is quinine plus doxycycline or clindamycin, with quinine plus clindamycin used for children less than eight years of age and pregnant women. Currently, the national policy for treatment of severe malaria is parenteral quinine. In Zimbabwe all health facilities located in malaria areas use RDTs or microscopes where available like hospitals to diagnose malaria and antimalarial treatment is available in all these health facilities.

Since 2003, there has been a reduction in malaria cases in Zimbabwe. The data available consists of both laboratory-confirmed and unconfirmed cases; however there are issues with the quality and completeness of data. Since 2005 the frequency of parasitological diagnosis is also increasing. As of 2009, the NMCP policy recommends parasitological confirmation of all malaria cases. Malaria case management is free without cost to the patient in the public health facilities but at council and church health facilities, consultation fees are charged, although RDTs and ACTs are is free and not charged against the patient. Mission health facilities account for about 7% of all health care facilities in the country.

Figure 7: Zimbabwe malaria incidence rate

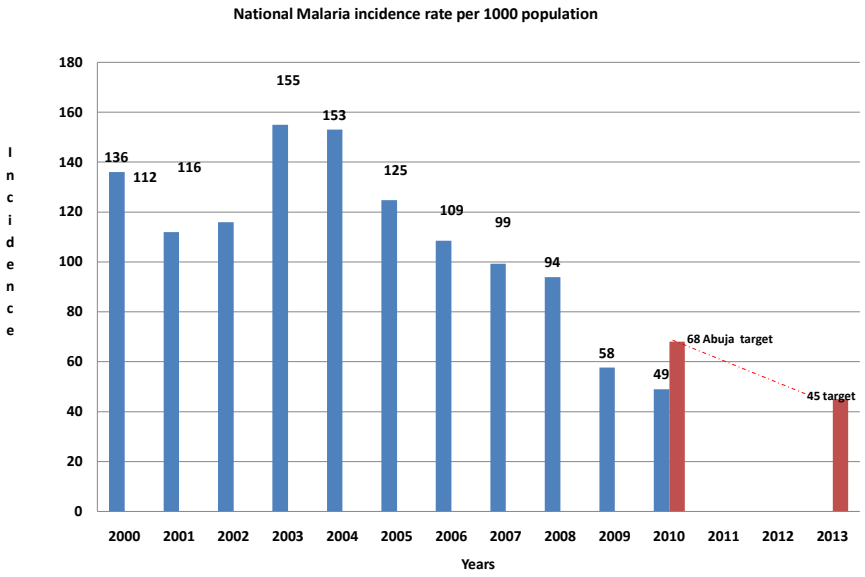
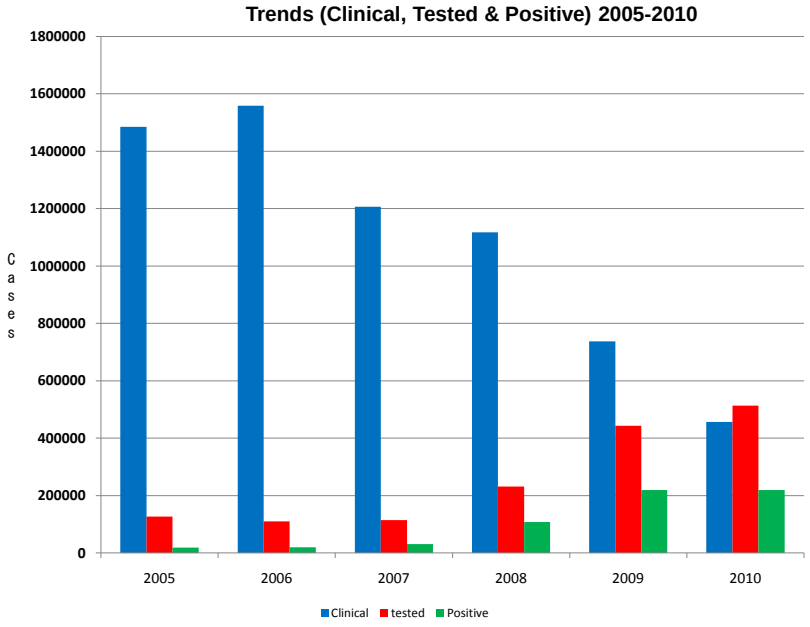


Figure 8: Trends in malaria case detection



The NMCP in collaboration with the NIHR maintain eight sites, one in each rural province, where drug efficacy monitoring on the first-line drug is conducted. These sites are being run with support from the Global Fund and the program is expecting to acquire a PCR machine from its Global Fund Round 10 grant which will help the NIHR conduct molecular analysis on samples to differentiate re-infection from recrudescence.

Community case management
In 2010 the NMCP adopted a policy and conducted a pilot study of community case management for malaria. This policy included permission from the pharmacy board for community-based health workers to use ACTs, and also recently the laboratory directorate granted permission to allow the workers to perform RDTs. The NMCP is preparing to scale up the training of community health workers and to implement community-based treatment on national scale in malaria endemic districts. The training does not include training on management of acute respiratory infections or diarrhea. Currently, community health workers are selected by the ward health committees; they are then trained and given a supply of RDTs, ACTs and registers from the primary health facility serving their area. The primary health facility is responsible for their supervision and data collection and replenishes RDT and ACTs for the workers. The workers are appreciated more by those communities which leave further from health facility..

Proposed Activities with FY2012 Funding: *($1,812,000)*

1. *Procure ACTs*: PMI will procure approximately 1 million ACT treatments for use in health facilities. *($1,000,000)*

2. *Training and supervision for health facility workers*: PMI will work with the NMCP to improve malaria case management by supporting the training and supervision of health facility workers. Training will include both ACTs, RDTs and IPTp, and will be co-funded by Global Fund. *($200,000)*

3. *Scale up of community case management*: PMI will support the scale up of malaria case management at the community level by funding the training and supervision of community health workers on ACTs and RDTs. PMI will also advocate for the inclusion of acute respiratory infection and diarrhea in the community case management training. This activity will be co-funded by Global Fund. *($500,000)*

4. *Integration of malaria activities*: with primary health facilities and community activities. In an effort to support the seamless integration of malaria activities in terms of commodity supply, supervision and reporting, between the primary health facilities and communities, PMI will support the interface in at least two high burden districts in Manicaland. *($100,000)*

5. *Technical assistance:* to support the NMCP with malaria case management implementation. *($12,000)*

H. EPIDEMIC PREPAREDNESS AND RESPONSE

Zimbabwe is characterized by having different malaria transmission zones with some areas prone to malaria epidemics. Zimbabwe has a surveillance system for the detection of epidemics called the Weekly Disease Surveillance System (WDSS) which also serves as the Integrated Disease Surveillance Report (IDSR). Malaria has been included as one of the various epidemic-prone diseases selected health facilities report on. Out of approximately 1,400 primary health facilities

in the country, 700 participate in the WDSS. On Mondays primary health facilities report to their district health information unit either by dispatching the completed form through a staff member or by phone call. The district health information unit then reports to the provincial health information unit, and subsequently the data goes to the national health information unit.

Zimbabwe has implemented training for all levels on WDSS. The health information units have calculated the epidemic threshold level of each disease, enabling all primary health facilities to have a chart plotting the corresponding level of alert, threshold, and action. Many primary health facilities were trained on WDSS reporting mechanisms, but with the high attrition rate of health staff due to the economic crisis, refresher training and an improved method to transmit the reports are still needed. The economic condition has also weakened the provinces' ability to respond to epidemics with adequate stocks of medicines and resources.

Proposed Activities with FY2012 Funding: *(costs included in M&E section)*

1. Support the training of health facility staff on the correct data collection, reporting, plotting of graphs and analysis of the data. *(costs included in M&E section)*

2. Support the NMCP to analyze and monitor the malaria trends, and improve preparedness for epidemic response. *(costs included in M&E section)*

I. INTEGRATION WITH OTHER GLOBAL HEALTH INITIATIVE PROGRAMS

Zimbabwe began receiving PMI funding in FY2011. With FY2012 funding PMI/Zimbabwe will actively seek opportunities to collaborate with the USG health programs so as to ensure maximum impact for every health dollar the United States Government invests in the country. Opportunities include the following:

Maternal and child health services and Malaria: Since malaria prevention and control activities have been implemented as part of integrated maternal and child health services, PMI will make a significant contribution to strengthening capacity to deliver these services. PMI/Zimbabwe will work with other USG-funded programs and other partners to support the comprehensive primary health care package, including the training and implementation of community-based diagnosis and treatment of fever, IPTp, and early treatment. PMI will also support the strengthening of supply chains, including support for the Zimbabwe Informed Push System (ZIPS), which includes malaria commodities, namely RDTs and ACTs.

HIV/AIDS and malaria: The seroprevalence of HIV infections is high at an estimated at 14.3% among individuals aged 15 to 49 years old in Zimbabwe (UNAIDS, 2009). Areas where integration will be pursued between the HIV/AIDS and NMCP include promoting adherence to universal precautions when taking blood samples, integrating quality assurance and

pharmacovigilance activities, providing LLINs to people living with HIV/AIDS, and ensuring appropriate malaria prevention services at Prevention of Mother-to-Child Transmission (PMTCT) clinics. PMI/Zimbabwe will coordinate with the NMCP and other partners to maximize potential areas for synergy between the two programs, such as supply chain management, laboratory programs, and health management information systems.

J. CAPACITY BUILDING AND HEALTH SYSTEM STRENGTHENING

The Zimbabwe NMCP has a staff of 12 with various responsibilities assigned to them by the program manager. At the provincial level, the Provincial Disease Control Officer is responsible for malaria program implementation and monitoring, while at the district level all disease control activities fall on the District Health Director. Due to the economic situation, the staffing and performance at health facilities has been irregular. Funding constraints have limited the activities available to the public, and some posts were completely abandoned.

The University of Zimbabwe trains health personnel in field epidemiology where participants acquire skills in data analysis, epidemiologic methods and use of strategic information to make appropriate health decisions. This is a two-year course, which will typically benefit central and provincial level personnel to build capacity. PMI will help develop malaria module into the curriculum of the FETP course and this will help course participants to have extra knowledge in malaria control. The university also organizes a short course on leadership and health management for middle-level cadres who work at the district level.

Proposed Activities with FY2012 Funding: *($70,000)*

1. *Support the Field Epidemiology Training Program*: by encouraging malaria specific field studies and support at least two trainees to enhance field epidemiology skills. This activity will strengthen mid- to high- level capacity, and develop skilled field supervisors in the malaria field. *($70,000)*

K. COMMUNICATION/COORDINATION WITH OTHER PARTNERS

Background:
Commitment to reducing the malaria burden and continuing on the path of malaria elimination is evident at the highest levels of the MoHCW. The head of the NMCP has regular meetings with the Principal Director, who in turn reports directly to the Permanent Secretary. The Health Partners Development Group meets on a monthly basis to discuss issues of mutual interest. Currently USAID chairs the meetings, but is in the process of transitioning the position to the MoHCW. The Global Fund Country Coordinating Mechanism (CCM), chaired by the Minister, meets bi-monthly, and USAID is an active member, chairing some sub-committees.

The head of the NMCP chairs a quarterly partnership forum, which includes participants from both the national and provincial level, and partners such as: WHO, UNICEF, USAID, NatPharm, Logistics Sub-Unit, Plan International, Centers for Disease Control, Crown Agents Zimbabwe, JSI/USAID|DELIVER PROJECT, and Population Services International (PSI). Routine meetings of the various sub-committees on broader health issues including malaria, also take place. One example is the semi-annual quantification all health commodities: this activity is led by the Logistics Sub-Unit and reviewed periodically by all the partners.

Proposed Activities with FY 2012 Funding: *(No additional costs to PMI)*

PMI, led by the PMI in-country team, will work closely with the NMCP, RBM partners, Global Fund funded and other health-related programs in Zimbabwe to provide integrated services at the primary health facility and community level. PMI will work with others in USAID/Zimbabwe to ensure coordination of PMI-supported activities within the broader context of the health strategies. These approaches will ensure the most cost-effective implementation of prevention and treatment measures.

In addition, PMI staff will provide leadership and technical assistance in other coordinating bodies such as the local RBM (including relevant RBM sub-committees). At the planning and implementation levels, PMI and other partners will work together to effectively fill commodity and human resource gaps. The team will also continue to participate in coordination bodies and meetings. The PMI advisors will spend a significant portion of their time working closely with RBM partners and the NMCP staff on program implementation, monitoring and evaluation.

L. PRIVATE SECTOR PARTNERSHIPS

In the past, Zimbabwe had a history of partnership with the private sector for vector control. Large plantations, agricultural operations and mining companies often implemented their own stand-alone IRS programs. These private entities procured their own insecticides (following the NMCP recommended insecticide class), then equipped and trained their own spray operators, in order to protect their workers.

With Zimbabwe's recent economic and political instability, many agricultural proprietors and large farm owners have left the country and their land has been divided up. Unfortunately this means that in many cases private entities cannot be relied upon to carry out IRS and other vector control activities in the past. Although PMI will not be specifically targeting the gaps in private sector entities, in FY2012 PMI will support the NMCP's IRS program and LLIN distributions in high-burden malaria areas.

M. BEHAVIOR CHANGE COMMUNICATION

Zimbabwe's National Malaria Communication Strategy document covers 2008-2013. Its purpose is to guide implementing partners and service providers, and is a complement to the National Malaria Control Strategy. Advocacy, social mobilization and behavioral change

communication (BCC) is the three-pronged approach used across the four main malaria interventions: vector control (IRS, LLINs and larviciding), case management, IPTp, and epidemic preparedness and response.

Mobilizing traditional and religious community leaders and civic organizations to support and promote malaria prevention and control is critical for achievement of the NMCP strategy and PMI objectives. Attached to each primary health facility is one or more WHTs, who are composed of volunteers from the community. WHTs often include community health workers, school masters, and community leaders, who assist with malaria communication for IRS and LLIN distribution campaigns. Community malaria committees are made up of volunteers selected by their communities and trained by the primary health facility staff on key malaria messaging at an interpersonal communication level.

The MOHCW has a cross-cutting subcommittee on BCC, which is currently chaired by one of the implementing partners and meets periodically. The NMCP also has a full-time officer, who manages the messaging and coordinates partner implementation of BCC activities. Global Fund Round 8, has supported the development and implementation of malaria control communications. In addition, under Global Fund Round 10 $4.6 million will be programmed to support both mass-media and community-based activities. DfID also plans to commit funding towards BCC activities, but at the time of the MOP writing the details and funding levels are unknown. PMI support will complement Global Fund activities, and under NMCP guidance focus on inter personal communication, pre-season malaria prevention activities and post-campaign hang up of LLINs. PMI funds will also help to operationalize the NMCP's BCC guidelines; such has how to implement activities and quantification of the reach of BCC materials. Evidence-based messages, focusing on a target audience are used, and the delivery methods include mass media, interpersonal communication, and print media. While the NMCP's National Communication Strategy does include a monitoring and evaluation component for BCC, support is needed to evaluate specific interventions and actual behavior change.

Proposed Activities with FY2012 Funding: *($550,000)*

> *Implementation of national and targeted mass media and community focused BCC campaigns*: Support for the development/revision of existing materials, reproduction, dissemination and evaluation of BCC materials for malaria communications. PMI supported BCC activities will promote increasing knowledge and enabling behaviors related to malaria prevention and treatment. These activities will follow national BCC norms and be approved by the NMCP prior to dissemination. Progress in BCC activities will be monitored through partner reports and large household surveys, including the MIS in 2012. *($550,000)*

N. MONITORING AND EVALUATION

Background
The Monitoring and Evaluation Plan for ZNMCP was published in 2009 following the successful completion of the M&E Systems Strengthening Tool (MESST), an RBM tool designed to assess

M&E plans and systems. The MESST was conducted in 2008. The M&E plan is based on the Global Fund M&E Toolkit, WHO recommended indicators, and internationally accepted tools and practices related to M&E. The M&E plan defines national malaria indicators, sources and frequency of data collection, measurement as well as mechanisms to track progress towards set indicators. Surveillance, M&E and research in malaria have evolved over time with the National Health Information System processing morbidity and mortality data through the recently launched District Health Information System (DHIS).

Routine Data Systems

The main sources of routine surveillance information are the National Health Information System (NHIS) and the WDSS which serves as the Integrated Disease Surveillance Report (IDSR). The NHIS has recently implemented a District Health Information System (DHIS) which will form the foundation for the country's Health Management Information System. Monthly reports on malaria cases and deaths from all public health facilities and some NGO clinics are reported through the DHIS. With regard to malaria these data include the number of suspected cases, number of suspected cases with parasite testing, number of laboratory-confirmed cases, ACT consumption, and IPTp uptake. DHIS information is reported monthly from health facilities to district health information officers who enter these data into the DHIS electronic database. Consolidated electronic data are then reported to the 12 provincial offices where data are consolidated from the districts are then reported to the national level. The DHIS was implemented nationally in 2011; training to district and health facility levels is ongoing but has experienced delays due to funding constraints. Other implementation barriers include lack of resources for on-site validation checks, supervisory visits, and staff vacancies at the district and provincial levels. As a result, the system is currently under-performing, which limits both the timeliness and completeness of data. Other obstacles to implementation are training, supervision, hardware, and connectivity limitations in some settings.

The NHIS also maintains the IDSR strategy – the WDSS (WDSS). This system provides weekly data on 16 epidemic- prone diseases, including clinically diagnosed and laboratory-confirmed malaria cases and deaths, from 700 health facilities. The WDSS is used to detect malaria outbreaks; epidemic thresholds are monitored at the health facility level. The current threshold is reached when the number of weekly cases exceeds 30% of the five- year weekly average. The program uses a 30 percent factor to account for systematic over-diagnoses that occurred prior to RDT scale-up which began in 2009. Participating sites submit data to the districts every Monday, districts to provincial offices by Tuesday and provinces to the national level by Wednesday. Weekly meetings are held at the national level to review and discuss data quality, potential outbreaks, and action steps. A weekly report is also produced and distributed to the national program areas. In 2006 the WDSS was recognized as the best IDSR system in the Southern Africa Region, but the system has been in decline from 2007 to 2009 during the economic downturn. The system is currently being revitalized with the most recent reporting period finding that completeness ranged from 58% to 66% and timeliness from 51% to 57%.

Programmatic Monitoring

Programmatic data on IRS, LLIN distribution, and larviciding are managed using the WHO Global Malaria Database. These data are used to monitor and report on the implementation of all malaria control activities. Data are collected from the sub-district level and passed through

district and provincial levels to the national level on a weekly, monthly, or quarterly basis, depending on the measure involved. The system was initiated in 2010; currently 28 districts out of 62 have been trained in the database. Full implementation is expected by the end of 2011.

National Surveys
The most recent DHS was conducted in 2010 and incorporated a malaria module, which included ITN and ACT coverage indicators. UNICEF supported a Multiple Indicator Monitoring Survey (MIMS) in April of 2009 that also included a malaria module. (According to UNICEF/ Zimbabwe the MIMS and MICS are the same surveys with regard to the malaria indicators collected). Data from the DHS and MIMS provide pre-PMI implementation estimates (see Table 1) for most all coverage indicators used by PMI. PMI will support a MIS in 2012 with anemia and parasitemia biomarkers. UNICEF will be sponsoring another MIMS in either 2013 or 2014 to measure progress towards the Millennium Developmental Goals.

Proposed Activities with FY2012 Funding: *($312,000)*

1. *Monitoring and evaluation Training:* Support the NMCP to train staff at the regional, district, and health facility levels in routine data collection systems (DHIS, WWDS, and Global Malaria Database). The training will include use of new data collection formats; revision of data collection forms where appropriate; analysis and reporting; and limited computer hardware and software. Trainings will support strengthening the quality of malaria data (completeness, accuracy, timeliness, and consistency) at the health facility, district, and regional levels. PMI will provide assistance to ensure that the malaria component of the DHIS is implemented consistently across all regions. In addition, technical assistance will be provided to strengthen malaria M&E data collection and analysis at the national level. *($200,000)*

2. *End-User verification survey:* Implement the PMI protocol to verify end-user receipt of malaria commodities and update the protocol as necessary to address Zimbabwe specific requirements. This tool has been adopted across PMI countries to provide rapid, real-time assessments of the availability of antimalarial drugs at the facility level. *($100,000)*

3. *Technical assistance:* Support for technical assistance from the CDC PMI M&E team. Technical assistance will include working with the NMCP to implement their harmonized malaria M&E plan, support for the implementation and evaluation of the DHIS at all levels of the system, and support for the Weekly Disease Surveillance System (WDSS). *($12,000)*

O. STAFFING AND ADMINISTRATION

As of August 2011, recruitment is on-going to fill the Resident Advisor positions. Two health professionals will serve as Resident Advisors to oversee the PMI in Zimbabwe, one representing CDC and one representing USAID. In addition, one FSN will be hired to support the PMI team. All PMI staff members are part of a single inter-agency team led by the USAID Mission Director 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 (whether initial hires or replacements) 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 the 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. 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 GFATM, World Bank, and the private sector.

Proposed FY2012 USG Component: ($*1,564,000*)

1. *In country PMI staff salaries, benefits, travel and other PMI administrative costs*: Support for two PMI (CDC and USAID) Resident Advisors and FSN staff members to oversee activities supported by PMI in Zimbabwe. Additionally, these funds will support pooled USAID Zimbabwe Mission staff and mission-wide assistance from which PMI benefits. *($1,564,000)*

TABLE 2: FY 2012 Planned Obligations Zimbabwe

8/15/2011

Proposed Activity	Mechanism	Total Budget	Commodities	Geographic area	Description of Activity
IRS					
Support spray operators training and other IRS implementation activities	IRS IQC Task Order 4	$1,800,000	$1,000,000	3 of 45 targeted districts	To support IRS implementation in 17 of 45 target districts, including the procurement of insecticides, spray pumps/parts and PPE, and other logistics required for spray operations. Approximately $1million for the procurement of insecticides/equipment.
Entomological surveillance and monitoring	TBD	$200,000	$0	a portion of the 16 surveillance sites plus Harare	To conduct comprehensive entomological surveillance, assess resistance and conduct other IRS vector related surveillance in the 16 sentinel sites.
Technical assistance to PMI IRS activities and environmental compliance	USAID	$0	$0 (core funding)	Nationwide	One USAID TDY to provide support for IRS (costs covered in core budget).
Subtotal: IRS		***$2,000,000***	***$1,000,000***		
ITNs					
Procure LLINs for the universal coverage through routine distribution	DELIVER	$3,500,000	$3,500,000	30 targeted districts	To purchase LLINs for distribution to reach universal coverage in 30 high burden malaria districts. Approximately 500,000 conical nets at $7 per net.
Routine distribution of LLINs	Population Services International	$400,000	$0	8 high burden provinces	To continue to support the roll out of the routine distribution of LLINs through ANC and vaccinations.

Technical assistance to LLIN activities	USAID	$0	$0	Nationwide	One USAID TDY to provide support for LLIN campaign (costs covered in core budget).
Subtotal: ITNs		***$3,900,000***	***$3,500,000***		
IPTp					
Procure SP	DELIVER	$30,000	$30,000	Nationwide	To procure approximately 1 million treatments of SP for IPTp (includes distribution costs to health facility).
Subtotal: IPTp		***$30,000***	***$30,000***		
Case Management					
Diagnostics					
Procure RDTs for case management of malaria	DELIVER	$1,320,000	$1,320,000	Nationwide	To procure approximately 1.3 million RDTs for use at primary health facility level (includes distribution costs).
Support quality control for diagnostics	New RFA	$50,000	$0	Nationwide	To provide quality control for diagnostics, including RDTs, at the provincial, district and primary health care facility level.
Technical assistance trip for RDTs	CDC/IAA	$12,000	$0	Nationwide	One technical assistance trip to support RDT implementation
Subtotal		*$1,382,000*	*$1,320,000*		
Pharmaceutical and Commodity Management					
Support for ZIPS distribution system, including ACTs and RDTs	DELIVER	$380,000	$0	Nationwide	To support ZIPS operations, including printing of LMIS forms, ZIPS Auto-DRV rollout and mop up trainings, and drivers for trucks.
Subtotal		*$380,000*	$0		
Treatment					

Procure ACTs for health facilities	DELIVER	$1,000,000	$1,000,000	Nationwide	To procure first line ACTs for use at health facility level.
Training and supervision on case management for health facility workers	New RFA	$200,000	$0	Nationwide	To support training and supervision of primary health facility staff on malaria case management (RDTs, ACTs) and MIP (SP). To be co-funded with GF support.
Support scale up of community case management (RDTs, ACTs)	New RFA	$500,000	$0	Nationwide	To support the training and supervision of community health workers on malaria case management (including RDTs, ACTs) at the community level. To be co-funded with GF.
Integration of malaria activities with primary health care facilities and community activities	MCHIP	$100,000	$0	2 districts: Mutare & Chimanimani, plus expansion to high burden districts	To continue to support the integration of malaria activities (case management, IPTp, early treatment etc.) with the primary care package. Activity will focus on the interface between primary health facilities and the community, and also include quality of care.
Technical assistance trip for community case management	CDC/IAA	$12,000	$0	Nationwide	One trip to support case management activities. Costs included in staffing budget.
Subtotal		*$1,812,000*	*$1,000,000*		
Subtotal: Case Management		***$3,574,000***	***$2,320,000***		
IEC/BCC					
Support malaria IEC/BCC	PSI	$550,000	$0	Nationwide	Support malaria IEC/BCC for IRS, LLINs, MIP and case management. Includes the development/revision of existing materials, reproduction, dissemination and evaluation.
Subtotal: IEC/BCC		***$550,000***	***$0***		
Capacity Building					

FELTP	CDC/IAA	$70,000	$0	Nationwide	Support malaria specific field studies and at least two student trainees to enhance field epidemiology skills.
Subtotal: Capacity Building		***$70,000***	***$0***		
M&E					
End use verification	DELIVER	$100,000	$0	Nationwide	To implement the end use verification tool on a quarterly basis in order to assess the availability of malaria commodities.
Support M&E training at provincial, district and primary health facility levels	New RFA	$200,000	$0	Nationwide	Support M&E training from the provincial level down to the primary health facility level, including malaria stratification, epidemic detection and response and IDSR (integrated disease surveillance and response). To be co-funded with GF.
Technical assistance trip to support M&E	CDC/IAA	$12,000	$0	Nationwide	One trip to support M&E strengthening activities. Costs included in staffing budget.
Subtotal: M&E		***$312,000***	***$0***		
Staffing and Administration					
In country staffing and administration costs	USAID	$900,000	$0	Nationwide	Support for USAID and CDC annual staffing and administration costs.
In country staffing and administration costs	CDC	$664,000	$0	Nationwide	Support for USAID and CDC annual staffing and administration costs.
Subtotal: Staffing and Administration		***$1,564,000***	**$0**		
GRAND TOTAL		**$12,000,000**	**$6,850,000**		