This Malaria Operational Plan has been approved by the U.S. Global Malaria Coordinator and reflects collaborative discussions with the national malaria control programs and partners in country. The final funding available to support the plan outlined here is pending final FY 2016 appropriation. If any further changes are made to this plan it will be reflected in a revised posting.

Burundi

Malaria Operational Plan FY 2016

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ABBREVIATIONS and ACRONYMS

ACT	Artemisinin-based combination therapy
ANC	Antenatal care
AS-AQ	Artesunate-amodiaquine
CAMEBU	*Centrale d'Achat de Médicaments Essentiels du Burundi*
DHS	Demographic and Health Survey
DPML	Department of Pharmacies, Medicines, and Laboratories
DSNIS	*Direction du Système National d'Information Sanitaire*
EUV	End-use verification
EPI	Expanded program on Immunization
FSN	Foreign Service National
FY	Fiscal year
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOB	Government of Burundi
HMIS	Health Management Information System
iCCM	Integrated community case management
IPTp	Intermittent preventive treatment in pregnant women
ITN	Insecticide-treated net
IRS	Indoor residual spraying
M&E	Monitoring and evaluation
MIP	Malaria in pregnancy
MIS	Malaria indicator survey
MOH	Ministry of Health
MOP	Malaria Operational Plan
NMCP	National Malaria Control Program
RDT	Rapid diagnostic test
SBCC	Social and Behavior Change Communication
SOP	Standard operating procedures
SP	Sulfadoxine-pyrimethamine
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

I. EXECUTIVE SUMMARY

The Republic of Burundi, located in the Great Lakes region of Central Africa, has an estimated population of 10.5 million (2016), an average life expectancy of 57 years, 95% of its population living on less than $2 per day and is one of the ten poorest countries in the world, ranking 184 out of 188 on the Human Development Index[1]. Burundi emerged from over a decade of protracted civil war in 2000, with the signing of the Arusha Peace Accord. Burundi's first democratic election was held in 2005. Despite that, Burundi is facing a new upsurge of political instability and violence brought about when the President sought and won, a third term in office, in a disputed election. An indication of where things may be headed can be gleaned from the continuing violence emerging in the latter half of 2015 and in the first quarter of 2016.

Malaria is considered a major public health problem in Burundi and places a substantial burden on the health system. According to Ministry of Health (MOH) statistics, malaria is responsible for up to 25% of all outpatient visits and up to 48% of all deaths in health facilities among children under five years old. The entire population of Burundi lives in areas at risk for malaria.

The latest Malaria Indicator Survey (MIS) was conducted in 2012, the first nationally representative population-based survey for malaria ever done in Burundi. The results showed that the use of preventive measures is increasing, with reported household ownership of an insecticide-treated net (ITN) at 63%. The MIS indicated that 53% of children under five years old and 56% of pregnant women were sleeping under an ITN the night before the survey. At the time of the MIS, Burundi did not have an intermittent preventive treatment during pregnancy (IPTp) policy. However, in 2014 Burundi adopted a new policy to provide sulfadoxine-pyrimethamine (SP) to pregnant women through antenatal care (ANC) clinics. The planned 2015 Demographic and Health Survey (DHS) is now scheduled to take place from September to December 2016.

This Malaria Operational Plan (MOP) was developed during a planning visit held in Kigali, Rwanda, in March 2016, due to the ordered departure of US Embassy staff from Burundi. Team members from USAID/Washington, USAID/Burundi, and a USAID consultant reviewed implementing partners' progress reports and activities. The activities that USAID is proposing to support with FY 2016 funding conform to the National Malaria Control Strategic Plan (2013-2017) for Burundi, and complement activities that will be supported under the country's Global Fund malaria grant. This plan was developed in consultation with the National Malaria Control Program (NMCP), through a series of recurring meetings by the foreign service national (FSN) Malaria Advisor before and after the MOP visit. The FY 2016 budget for Burundi is $ 9.5 million.

Entomologic monitoring and insecticide resistance management: Burundi's long-term vector control management goal includes increasing national capacity to collect, analyze, and use entomologic data to inform the country's national malaria control strategy. While national entomology capacity remains limited, progress has been made over the last few years. With USAID support, an insectary was established in Bujumbura and a total of eight sentinel surveillance, entomologic, and monitoring sites are established and have trained technicians. Burundi now has its first entomological baseline data and continues to collect data that will guide programmatic decisions in the future. The departure of the project entomologist in December 2015 has impacted the ability of the sentinel sites to conduct surveys. A new entomologist is under recruitment and expected in the second quarter of 2016. With FY 2016

[1] http://hdr.undp.org/en/countries/profiles/BDI

funding, USAID will continue to support building national entomology capacity through training, while maintaining support for surveillance and insectary activities.

Insecticide-treated nets (ITNs): The scale-up of ITNs is a crucial component of Burundi's malaria prevention strategy. The goal is to achieve and maintain universal ITN coverage by providing one ITN per two people. Coverage is mainly achieved through mass distribution campaigns every three years, with keep-up coverage maintained through routine distribution via antenatal care clinics (ANC) to pregnant women and to children under five years old via the delivery of immunization services. The last universal coverage campaign was conducted in mid-2014, when over 5 million ITNs were distributed nationwide with support from USAID in macro and micro planning. The USAID malaria program has supported the procurement of over 4.6 million ITNs since 2010, contributing to needs for routine distribution and the universal coverage campaign; additional funds supported campaign distribution and planning. With FY 2016 funding, USAID will procure and ensure distribution of over 867,500 ITNs through routine distribution channels including ANC and immunization services.

Malaria in pregnancy (MIP): In March of 2015, following several years of extensive support from USAID and UNICEF, Burundi launched intermittent preventive treatment of pregnant women (IPTp) as national policy, adding it to the package of services available through ANCs. Sufficient supplies of sulfadoxine-pyrimethamine (SP) have arrived, and the new policy is being rolled out. Partners, including USAID, are supporting training and supervision of health personnel, and educating the public on the benefits of IPTp as part of a demand-creation strategy. With FY 2016 funding, USAID will continue to support the introduction and scale-up of IPTp through support for supervision within the four USAID focus provinces including Karuzi, Kayanza, Kirundo, and Muyinga. Support for roll-out in the remainder of the country will continue with existing pipeline funding and with additional FY 2017 funding.

Case management: The national policy on malaria case management recommends confirmed diagnosis of all suspected cases through either microscopy or rapid diagnostic tests (RDTs), and prompt treatment with an efficacious antimalarial drug for all confirmed cases. However, when diagnostic capacity is not available a clinician may presumptively treat any child under five years old. The current guidelines, which USAID helped to revise and update, recommend scaling up RDT use to cover 80% of all diagnostic needs. For treatment, a fixed-dose of artesunate-amodiaquine (AS-AQ) is used to treat uncomplicated cases of malaria, while injectable artesunate is used to treat severe malaria. Community case management of malaria is being scaled-up throughout the country. While some stockouts and low stocks persisted, case management strengthening activities have shown improvements. The October-December 2015 end-use verification study (EUV) indicated approximately 98% of children under five that were confirmed to have malaria received an artemisinin based combination therapy (ACT) and 84% of facilities had at least one staff member trained in case management and stock management.

With FY 2016 funding USAID will procure approximately 5,127,800 RDTs and up to 4,973,312 ACTs. The Government of Burundi will procure all severe malaria treatments to cover the country needs. USAID will continue to support community case management where it has previously been introduced, while rolling it out in five additional districts using existing pipeline funding (Bubanza, Butezi, Gihofi, Mpanda, and Rutana). USAID will also continue to support strengthening of the national supply chain system and improved pharmaceutical management via training and supervision at the national, district, and health facility levels.

Health systems strengthening and capacity building: USAID is committed to provide the NMCP with support to strengthen and sustain the program and national strategy, while emphasizing increased capacity development within the NMCP and key policy and structural reforms. In the past year, USAID has focused on support to the NMCP to manage and coordinate partners through quarterly reviews. With FY 2016 funding, USAID will continue to support the improved operations of the NMCP.

Social and behavior change communication (SBCC): Social and behavior change communication (SBCC) remains a new part of the broader health and malaria strategy for Burundi. With support from USAID a new national communication strategy is being implemented. The SBCC subunit in the NMCP is strengthened to ensure that malaria messages are more fully represented in the national communication strategy. With FY 2016 funds USAID will continue to support the NMCP's SBCC unit by increasing awareness about malaria and its dangers, encouraging prompt action in seeking treatment and correct measures to prevent the transmission of malaria and mitigate its impact during pregnancy.

Surveillance, monitoring and evaluation (SM&E): USAID support facilitated the development of a national surveillance, monitoring, and evaluation (SM&E) plan for the NMCP, which will tie in to the Health Management Information system (HMIS). USAID has also been supporting the periodic gathering of data through the EUV survey (biannual) and is supporting the DHS, now occurring in 2016 since it initially conflicted with national elections held in 2015. Finally, USAID has been training NMCP, district, and facility-level staff to improve data collection and analysis. With FY 2016 funding, USAID will continue to build on past support for the development of the national SM&E plan by training staff and conducting EUV surveys, as well as in providing follow-up technical assistance for the 2016 DHS.

II. STRATEGY

1. Introduction

Burundi has been receiving USAID malaria funding since fiscal year (FY) 2009. Large-scale implementation of malaria control efforts has progressed rapidly. This FY 2016 MOP presents a detailed implementation plan for USAID support for malaria control in Burundi, based on the US Government malaria strategy and the NMCP's Strategic Plan (2013-2017). The Burundi 2016 MOP was elaborated in Kigali, Rwanda, due to the ordered departure of US Embassy staff in December 2015. Unfortunately, insecurity has racked Burundi starting with the decision of the President to run for a third term. Ordered departure of staff has occurred twice during calendar year 2015 and it has impacted, in varying degrees, the malaria work conducted by our implementing partners. This implementation plan was developed strategically with a view to simplify and reduce the number of implementing partners in country. While the MOP team was unable to meet directly with the NMCP, the FSN Malaria Advisor met extensively with the NMCP and our implementing partners to gather the information required by the team. Ordered departure was lifted on March 11, but limits on TDYs were continued. Burundi is now designated as a post limited to adult dependents over 21 who are employed at the Embassy.

The activities that USAID is proposing to support build on investments made by USAID and other partners, including the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund), to improve and expand malaria-related services. This document briefly reviews the current status of malaria control policies and interventions in Burundi, describes progress to date, identifies challenges and unmet needs to achieve the targets of the NMCP and USAID, and provides a description of planned FY 2016 activities. Burundi is a limited presence country for USAID with two U.S. Direct Hires and a total staff size of 24 managing USAID's programs in country. Financial, contracting and other oversight functions are provided from USAID/Rwanda.

The total amount of USAID malaria FY 2016 funding for Burundi is $ 9.5 million.

2. Malaria situation in Burundi

Malaria is considered a major public health problem in Burundi and places a heavy burden on the health system. Burundi's HMIS data indicate that cases of malaria represent approximately 25% of total consultations and account for up to 48% of deaths in health facilities among children under five years old. The estimated 2015 malaria mortality rate was 1.9%[2]. The major vectors transmitting malaria in Burundi are *Anopheles gambiae* and *An. funestus*. In Figure 1, one notes the spike in cases in 2015 continuing up to week five in 2016.

[2] Preliminary 2015 report for the national information system *(Rapport annuel de la Direction du Système National Information Sanitaire (DSNIS):*

Figure 1: Weekly cases of malaria, 2011 to 2016

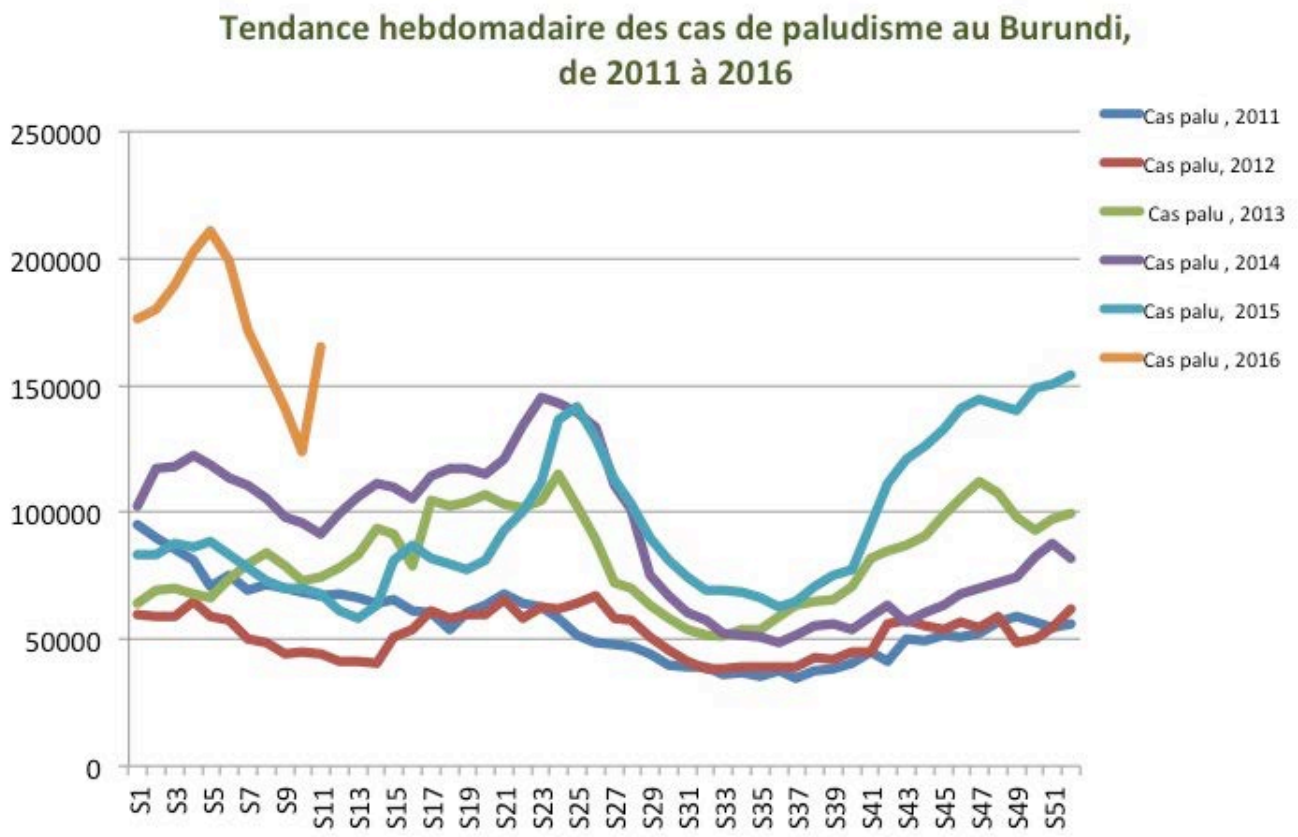
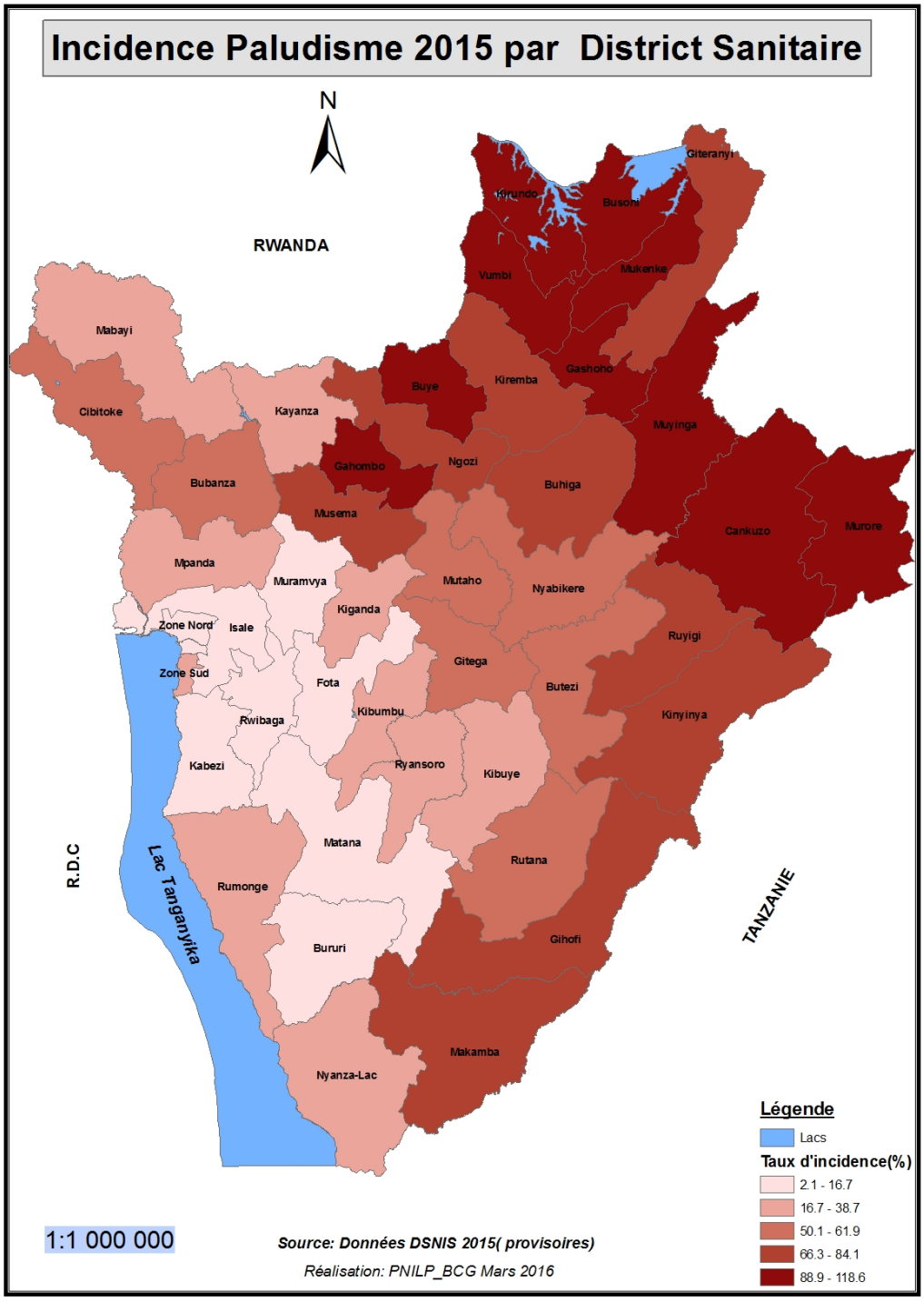


Figure 2 shows malaria incidence in 2015; districts most affected are those identified as at risk for epidemics. There have been increasing trends of deadly epidemic outbreaks in the central highlands - exposing non-immune populations in eight provinces (Cankuzo, Gitega, Karuzi, Kayanza, Muramvya, Muyinga, Mwaro, and Ngozi). Epidemic outbreaks are located near wetlands where the use of irrigation channels for rice cultivation, or for wetland mixed farming, promote persistent breeding sites. Outbreak investigations in 2015 were conducted and schools and surrounding villages received indoor residual spraying (IRS) and ITNs. In 2016, six high-risk districts were chosen to receive spraying to be conducted in July 2016. Spraying may be delayed due to non-availability of one of the required compounds: malathion. The Global Fund is supporting all financing for the IRS operations.

Figure 2: Malaria incidence in the greater than 5 population, 2015



3. Country health system delivery structure and Ministry of Health organization

The Republic of Burundi is a small country in the Great Lakes region of Central Africa bordered by Rwanda to the north, Tanzania to the south and east, and the Democratic Republic of the Congo to the west. Although the country is landlocked, it borders Lake Tanganyika to the southwest. Burundi is now a member state of the East Africa Community, which is comprised of Burundi, Kenya, Rwanda,

Tanzania, and Uganda. The country is divided into 18 provinces, 129 *communes* (five to eleven per province) and 3,061 *collines* with an average population of 3,000 per *colline*. Provincial administrations are structured upon these boundaries. Bujumbura is divided into two provinces, Bujumbura Rural and Bujumbura Mairie, consisting of 3 urban *communes*.

The goals outlined in the current national Health Development Plan (*Plan National de Développement Sanitaire II 2011-2015)* are to: reduce maternal and neonatal mortality; reduce infant and child mortality; reduce mortality from communicable diseases; and, strengthen the health system and meet Millennium Development Goals 4, 5, and 6 related to, respectively, reducing child mortality, improving maternal health, and combating infectious diseases. The current National Health Policy places malaria control as first among eight strategies aiming to reduce maternal and neonatal mortality; reduce infant and child mortality; reduce mortality from communicable diseases; and, strengthen the health system and meet new Sustainable Development Goals after the Millennium Development Goals' deadline which was 2015. According to the WHO World Malaria Report 2015, " Estimates of malaria case incidence inferred from surveys of parasite prevalence suggest that, between 2000 and 2015, four countries (Angola, Burundi, Congo, and Democratic Republic of the Congo) had decreases in case incidence of 50–75%". A new national health strategy is being developed with participation from USAID and other donors and key stakeholders in the health sector. The new strategy will build on the achievements of the Millennium Development Goals post 2015. There is no set target date to complete the elaboration of this strategy, nor a date by which it should be adopted.

The Ministry of Health (MOH) is organized into three levels with well-defined roles and responsibilities to implement the ambitious, national health strategy. The central level is comprised of the Minister and the Heads of Departments and Services who are tasked with setting policies and guidelines. The intermediate level is composed of the 17 health provinces that are administered by a Provincial Bureau, headed by a Chief Medical Officer. The tertiary level is composed of 45 health districts that are managed by health district teams. Each district team is normally led by a physician, and composed of three supervisors, a health information system or data manager, an administrative officer, a drug stocks manager, an accountant, an administrative assistant, a driver, and up to three clerks.

Decentralization is ongoing with strategic planning, implementation, and financial support being transferred to the provincial and district levels. Under the decentralization plan, the provincial health departments will regulate and supervise district-level offices to ensure compliance with the central MOH level. The district-level offices will oversee the delivery of health care services in the local communities. As a result of these changes, provincial and district health departments are becoming responsible for implementing and coordinating activities within their health zones. Included in the decentralization plan, each district will have a district hospital and peripheral health centers; however, the implementation of this plan is not yet complete and five districts still do not have hospitals. The peripheral level is composed of district-based health centers, staffed by nurses who provide preventive and curative interventions for the population.

The MOH has adopted performance-based financing countrywide to strengthen the health system with the aim of improving quality care and retaining key personnel. Although performance-based financing is national, not all health elements are covered, and, at the moment, the malaria control program is not included in the system. USAID/PEPFAR has recently withdrawn support to performance-based financing because this support to the health system was classified non-core. The World Bank, GAVI, NGOs, and the GOB currently support performance-based financing in Burundi. The GOB's budget for

health, as a percentage of its total annual budget, had been increasing, peaking at 12%[3] in 2012 before dropping to less than 10% in 2013, as the government prioritized other areas, perhaps due to donor support to the health sector, although no official reason has been stated.

The Burundi health budget dedicated to malaria prevention and control is increasing, though, as the GOB officially committed to pay for malaria commodities in their Global Fund proposal, for an amount of $2,999,892 or 5% of the budget allocated to the country. This amount represents 1% of the total health budget in 2015. The vast majority of funding for malaria control continues to come from external donors (primarily from USAID and the Global Fund). In March 2016 the European Union announced that it is withdrawing direct financial support to the GOB as a result of Article 96 negotiations. The EU is continuing to plan its assistance in the health sector with the intent to work through non-governmental partners.

4. National malaria control strategy

The MOH finalized Burundi's third national malaria strategy (*Plan Strategique National de Lutte Contre le Paludisme 2013-2017)* in November of 2013 and reviewed it in 2014 during the Global Fund concept note development. The national strategy is aligned with the National Health Plan and WHO recommendations. With the support of the GOB and partners, the NMCP's strategy subscribes to the key malaria priorities and activities of universal coverage, improved diagnostics through rapid diagnostic test (RDT) use, increased communication activities, provision of free, first-line malaria treatment, and free case management of severe malaria for children under five and pregnant women.

Burundi's stated goal is to reduce malaria morbidity and mortality by 75% from 2013 levels, by 2017. The strategy is comprised of seven thematic areas: 1) case management, 2) malaria in pregnancy, 3) integrated vector control management, 4) epidemic surveillance, 5) communication, 6) monitoring and evaluation and operational research, and 7) capacity building of the national program. Each area has its own specific goals and objectives.

Case Management

The principal objectives of malaria case management are to minimize severity and complications from malaria infections and thus reduce morbidity and mortality among vulnerable populations, and to ensure that all people with malaria have access to appropriate, timely diagnosis and prompt treatment.

Malaria in Pregnancy

Adopted as a new prevention intervention in Burundi in 2014, under the current national strategy, IPTp was launched in March 2015 in Gitega Province. The NMCP plans to introduce and scale up to new provinces progressively. This new intervention is a complement to the distribution of ITNs to pregnant women, providing a more comprehensive package of malaria prevention tools to this vulnerable population. The aim is for all pregnant women to receive at least three doses of SP during antenatal clinic visits, with doses being administered under direct observation of the health worker, as frequently as monthly intervals, starting in the second trimester, up to the day of delivery.

Integrated Malaria Vector Control

Burundi's objectives for integrated vector control are: 1) ensure universal coverage of ITNs with at least 80% use, 2) maintain 100% coverage of households in targeted epidemic-risk districts receiving indoor residual spraying, and 3) establish and operationalize an entomologic surveillance system.

[3] Burundi Budgetary law 2011 *(Loi Budgétaire du BURUNDI 2011)*

Epidemic Surveillance
The main objective is for the program to develop a surveillance, detection and alert system containing mapped, high-risk zones with the goal of detecting 100% of epidemics.

Communication
The primary objective under this theme is to ensure that at least 90% of the population will be aware of and adopts the appropriate use of malaria prevention and treatment interventions.

Monitoring and Evaluation
The objective of this theme is to strengthen monitoring and evaluation of malaria control interventions, activities, policies, and strategies and ensure that at least 80% of decisions are made using available evidence.

Capacity Building
The principal objective is to strengthen capacity in program management, resource mobilization, and coordination at all levels.

5. Updates in the strategy section

No updates in the strategy section.

6. Integration, collaboration and coordination

The Global Fund and the USAID malaria program provide more than 90% of malaria control funding to Burundi. This does not take into account staff salaries, which are paid by the government. Other donors include UNICEF, MSF-Belgium, World Vision, World Relief, and other organizations. WHO continues to provide technical and norm-setting guidance.

The transitional funding mechanism (consolidation of RCC and Round 9) grant ended on July 31, 2015, which covered procurement of key malaria commodities. Under the Global Fund New Funding Model, the proposed malaria funding level for Burundi is $24,921,567 for the 2014 to 2017 allocation period[4] (including remaining funds from the rolling continuation channel, Round 9 and the transition funding.) The NMCP submitted a concept note under the New Funding Model in January 2015, which was approved, and is now being implemented.

The USAID Malaria program and the Global Fund provide complementary funding for malaria control efforts in Burundi. The Global Fund Round 9 grant funded the vast majority of the 2014 mass distribution campaign that distributed 5.2 million nets nationwide. The USAID Malaria program targeted its funding to ensure technical assistance was available to the NMCP for the macro and micro planning of the campaign.

For case management, the USAID malaria program and the Global Fund provide all funding for national stocks of ACTs, RDTs, and SP and other essential malaria medicines. USAID coordinates closely with all partners to ensure that national stockouts are avoided and will place emergency orders in case of delayed release of funds or late delivery of commodities. The USAID malaria program will also provide technical assistance for quantification, procurement planning, and monitoring of SP, ACTs, and RDTs.

[4] http://www.theglobalfund.org/en/fundingmodel/allocationprocess/allocations/

The Global Fund is advocating for integrated community case management (iCCM) by providing commodities and supporting training. The Global Fund support and advocacy has led to wider collaboration with UNICEF and other NGOs that are involved in the integrated management of childhood illnesses, who provide the other important commodities including zinc and antibiotics. In addition, UNICEF and World Relief support iCCM programs in collaboration with WHO and USAID partners in Gitega Province.

7. Progress on coverage/impact indicators to date

The following table presents the current state of key malaria indicators in Burundi.

Table 1: Evolution of Key Malaria Indicators in Burundi 2005 to 2012

Indicator	2005 MICS	2010 DHS	2012 MIS
% Households with at least one ITN	8%	52%*	63%
% Households with at least one ITN for every two people	**N/A**		
% Children under five who slept under an ITN the previous night	8%	46%	53%
% Pregnant women who slept under an ITN the previous night	**N/A**	50%	56%
% Households in targeted districts protected by IRS	**N/A**		
% Children under five years old with fever in the last two weeks for whom advice or treatment was sought	**N/A**		
% Children under five with fever in the last two weeks who had a finger or heel stick	**N/A**		
% Children receiving an ACT among children under five years old with fever in the last two weeks who received any antimalarial drugs	**N/A**	70%	69%
% Women who received two or more doses of IPTp during their last pregnancy in the last two years	**N/A****		

***** The DHS was conducted before the 2011 universal coverage campaign was conducted

** IPTp was not policy in Burundi until 2014.

******* Note: The proposed 2015 DHS fieldwork is now scheduled from September to December 2016

III. OPERATIONAL PLAN

1. Vector monitoring and control

NMCP/USAID objectives
According to the National Malaria Control Strategy for Burundi the vector control interventions include the distribution and promotion of the use of insecticide-treated nets (ITNs) and indoor residual spraying (IRS). The strategy also describes larviciding, but only in specific, well-defined situations. USAID supports the strategy by focusing on the procurement and distribution of ITNs through various channels including campaigns and routine distribution through antenatal care clinics and child vaccination services, as well as in building capacity in entomologic monitoring and surveillance.

a. Entomologic monitoring and insecticide resistance management

Progress since USAID malaria program was launched
Since the start of the USAID malaria program in Burundi, effort has focused on increasing the national capacity to collect, analyze, and use entomologic data to inform the country's malaria prevention and control program. The support includes establishing a functioning insectary (2013), and, over several years, the opening of sentinel sites, with a total of eight in operation as of December 2015. USAID support over this period includes training in entomology in order to ensure proper management of the insectary as well as the sentinel sites, and to build capacity at the NMCP to use information to inform program implementation.

Progress during the last 12 months
USAID support continues to focus on building and maintaining improved capacity in entomology with the aim of enhancing vector control interventions. During the last 12 months, USAID supported the training of two entomologists in a regional training in Ghana, and 16 sentinel site entomology technicians in Burundi. Sentinel surveillance was expanded from six sites to eight. There were five entomology surveys conducted using three different collection methods including pyrethrum spray catches, light traps, and human landing catches. The insectary in Bujumbura continues to operate and had security improvements made with a day guard posted in addition to already placed night staff.

However, issues have arisen due to continued insecurity in the country, and it is not clear at this time if any entomology activities are operational. During the last 12 months, only half of the ten planned vector surveys were conducted and the second round of insecticide susceptibility testing that was planned has yet to be done, being postponed twice. Following the evacuation of expatriate staff in December 2015, regular supervision and monitoring slowed down; however a monitoring visit took place in April 2016, which indicated that the sentinel sites were functioning. Finally, the renovation of a government laboratory, which is planned for use related to the insectary and field-collected specimens for standard entomology tests, has been delayed indefinitely.

Plans and justification
Using FY 2016 funding, USAID plans to focus on ensuring that all previous surveillance and monitoring activities are restarted and sustained, and that the insectary is functioning and providing specimens for susceptibility tests. Since it is not clear to what extent activities have ceased, USAID will focus on recovering any lost ground and working to ensure that future work schedules are maintained, with support for supervision being one of the key components of the plan.

Proposed activities with FY 2016 funding: ***($500,000)***

- *Support entomological capacity:* Continue to support entomological capacity including re-establishing operation of sentinel sites, collections, surveys and insectary, and ensuring that sentinel site operation is devolved to the local level. ($500,000).

b. Insecticide-treated nets

Progress since USAID malaria program was launched
Since the start of the USAID malaria program in Burundi, over 4.6 million insecticide-treated nets (ITNs) have been procured and distributed for campaigns as well as routine service delivery. Also, USAID provided technical assistance for both nationwide campaigns (2009-11 and 2014), and technical assistance and capacity building support to manage ITNs as essential medicines. Finally, USAID support promoted demand for and use of ITNs including social marketing.

Progress during the last 12 months
During this period, USAID support continued to focus on harmonizing the national distribution strategy, which includes managing ITNs as essential medicines; social marketing of ITNs with over 10,000 sold; social and behavior change communication activities to promote ITN ownership and use, emphasizing vulnerable groups such as pregnant women and children under-five, using various media such as radio, printed material, and community outreach; and, receiving 700,000 ITNs for routine distribution. Related to the management of ITNs, a pilot program using SMS is ongoing in health districts under the USAID bilateral health program, whereby weekly updates on supplies of ITNs are sent to the central level to anticipate stock needs.

However, some issues have been noted - a few of which are directly linked to the ongoing insecurity. Theft of ITNs in four district depots has been noted, with follow-up inconclusive as to who might be responsible. Although this may have occurred regardless of the current insecurity, reinforcing measures to ensure that it does not happen again is challenging. Staff turnover both within government structures and within our implementing partners makes the tracking of ITNs arduous, and identification of the responsible individual complicated. Finally, the social marketing of ITNs was not able to reach targets over the last two years, with one-third of the planned *Supanet* stock remaining unsold. The intention is to make the remaining ITNs available for routine distribution and to cease the social marketing program.

Currently, USAID is focusing on continued support with technical assistance for managing ITNs down to the district level and to promote ownership and use of ITNs throughout the country.

Commodity gap analysis

Table 2. ITN Gap Analysis

Calendar Year	2015	2016	2017
Total Targeted Population	9,507,982	9,736,174	9,969,841
Continuous Distribution Needs			
Channel #1: ANC[1]	475,399	486,809	498,492
Channel #2: EPI[1]	351,795	360,238	368,884
Channel #3: Schools		215,000	
Channel #4: Special Groups		148,401	
Estimated Total Need for Continuous	827,194	1,210,448	867,376
Mass Distribution Needs			
2017 mass distribution campaign[2]			6,092,681
Estimated Total Need for Campaigns	0	0	6,092,681
Total Calculated Need: Continuous and Campaign	**827,194**	**1,210,448**	**6,960,057**
Partner Contributions			
ITNs carried over from previous year		22,806	25,759
ITNs from Government			
ITNs from Global Fund Round		148,401	6,092,681
ITNs from Other Donors			
ITNs planned with USAID funding	850,000	1,065,000	867,500
Total ITNs Available	850,000	1,236,207	6,985,940
Total ITN Surplus (Gap) [3]	22,806	25,759	25,883

[1]Pregnant women are 5% of the total population and children under-one are 3.7% of the total population.
[2]One ITN for every 1.8 people plus 10% safety stock.
[3]Surpluses are carried over into the next year, but deficits are not.

Plans and justification
Using FY 2016 funding, USAID plans to procure and distribute approximately 867,500 ITNs to be made available for routine distribution. The amount is based on the gap analysis done by the NMCP in collaboration with key partners, including USAID, and which was the basis for the country's Global Fund concept note. This would fill the entire gap for ITNs to be distributed via routine channels. USAID will also contribute to communication and promotion activities related to the 2017 mass distribution campaign.

Proposed activities with FY 2016 funding: ***($3,847,600)***

- *Procurement of ITNs:* Procure approximately 867,500 rectangular ITNs for routine distribution. ($2,880,100);
- *Distribution of ITNs:* Distribute approximately 867,500 ITNs via routine channels including ANC and EPI. ($867,500); and,
- *Communication support for 2017 mass distribution campaign:* Provide support for communication activities related to the 2017 mass distribution campaign. ($100,000).

2. Malaria in pregnancy

NMCP/USAID objectives
According to the National Malaria Control Strategy for Burundi, the objectives of the malaria in pregnancy (MIP) program are to ensure that every pregnant woman receives at least three treatments of intermittent preventive treatment during pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP), with each treatment being administered under direct observation of the antenatal care (ANC) attendant, starting in the second trimester, at one-month intervals, up to the day of delivery. Additionally, each pregnant woman will receive an ITN at her first ANC visit. Finally, pregnant women in their first trimester will be treated for uncomplicated malaria using oral quinine, while women in their second and third trimesters will be treated using an artemisinin-based combination therapy (ACT). USAID supports the full package of MIP activities in the national strategy. Severe malaria treatment is administered according to national protocols (see treatment section).

Progress since USAID malaria program was launched
In 2009, USAID and other key partners began advocating that the MOH revise its policy on SP, which had been removed from the MOH essential drug list since 2002. In 2014, Burundi adopted IPTp, and included it in its updated MIP policy guidance, which initially only included distribution of ITNs at ANC and treatment guidelines for both uncomplicated and severe malaria (2002). In preparation for the launching of the new IPTp policy, USAID purchased 1,860,000 treatments of SP as well as identified target districts in which IPTp rollout would start. Working closely with UNICEF, USAID helped spearhead the IPTp launch in March of 2015, which was followed by training of health workers and development of communication materials to raise public awareness on the new policy.

Progress during the last 12 months
USAID support in MIP has focused on launching and scaling up IPTp in the last 12 months. In this period, USAID purchased 1,860,000 treatments of SP that will be used in the rollout of IPTp throughout the country. USAID also assisted with development of training manuals and in training health workers in the districts where IPTp rollout was starting. Rollout is planned in a phased manner given the scope and scale of the activity.

In 2015, with USAID support, IPTp was rolled out in 20 health districts covering eight provinces with around 662 staff trained, including 104 trainers throughout the country. UNICEF is supporting IPTp as well in Kibuye District. The implementation is conducted in concert with the Reproductive Health Program through ANC. USAID and UNICEF supported a communication campaign to raise public awareness about the policy change. The GOB committed to provide all SP doses needed for 2016-17 covering all the SP needs mentioned in the concept note to the GF.

Due to staff turnover among key implementing partners, the plan to have rolled out IPTp throughout the country was only partially realized in 2015. As a result 20 health districts in eight provinces started implementation; rollout is continuing in 2016, and will continue into 2017, if needed.

Table 3. Status of IPTp policy in Burundi

WHO policy updated to reflect 2012 guidance	2014
Status of training on updated IPTp policy	In process
Number of health care workers trained on new policy in the last year	662
Are the revised guidelines available at the facility level?	Yes
ANC registers updated to capture 3 doses of IPTp-SP?	In process
HMIS/ DHIS updated to capture 3 doses of IPTp-SP?	In process

Commodity gap analysis

Table 4: SP Gap Analysis for Malaria in Pregnancy

	2015	**2016**	**2017**
Total Population	9,507,982	9,736,174	9,969,841
SP Needs			
Total number of pregnant women attending ANC[1]	1,105,303	1,131,830	1,158,994
Total SP Need (in treatments)	3,315,909[1]	3,395,491	3,476,982
Partner Contributions			
SP carried over from previous year	-	2,480,166	-
SP from MOH[2]	-	915,325	3,476,982
SP from Global Fund	2,170,000	-	-
SP from Other Donors	562,000[3]	-	-
SP planned with PMI funding	-	-	-
Total SP Available	2,732,000	3,395,491	3,476,982
Total SP Surplus (Gap)	2,480,166[4]	0	0

[1]This was the originally projected need in the event that IPT roll out was completed, but that did not happen, and a significant stock remains

[2]Note that the GOB has committed to providing all SP needs nationwide in 2016/17 as stipulated in the Concept Note to the GF.

[3]This shipment includes 395,333 treatments (= 1,186,000 tabs) delivered by USAID/PMI plus 166,666 treatments (=500,000 tabs) delivered by UNICEF

[4]Physical stock count as of December 31, 2015. Surpluses are carried over into the next year, but deficits are not.

Plans and justification

There is some uncertainty about current mechanisms that are being used to support IPTp rollout and MIP activities in general, however the plan is to continue to support these activities in 2016 and 2017. Although there will be no specific line item in the budget for IPTp rollout in this MOP (other than for support for supervision in the current bilateral provinces), USAID will continue the above activities as they draw down their FY 2015 funding pipeline, before their mechanism ends in 2017. The plan is to include FY 2017 funds into a central funding option in order to continue to support the scale-up of IPTp throughout the country.

Using FY 2016 funding, USAID plans to continue to support the rollout of IPTp in provinces that fall under the USAID bilateral project. USAID will continue to support supervision in districts where rollout has been completed, to ensure quality of service delivery. Finally, USAID will continue to monitor supplies of SP, which the government indicates that they will purchase for IPTp, as well as to monitor the status of ANC registry update to reflect the new policy and the health management information system (HMIS) for capturing the three doses of IPTp-SP.

Proposed activities with FY 2016 funding: ***($85,000)***

- *Supervision of IPTp:* Provide support for supervision of IPTp at ANC in the four provinces of Karuzi, Kayanza, Kirundo, and Muyinga. ($85,000).

3. Case management

a. Diagnostics and treatment

NMCP/USAID objectives in diagnostics

According to the 2013-2017 National Malaria Control Strategy, by 2017, 90% of persons suspected of having malaria should have a parasitological diagnosis. The new treatment guidelines require diagnostic confirmation of all fever cases before treatment with an artemisinin-based combination therapy (ACT[5]), either by rapid diagnostic test (RDT) or microscopy. Access to malaria diagnostics is fairly widespread with microscopy available in most health centers and hospitals. Use of RDTs has also expanded nationwide, aiming for 80% of all confirmatory tests to be done by RDT and 20% by microscopy. In 2015, no RDT stockout was detected. According to 2015 HMIS data, confirmatory testing rates in Burundi are 97%, with 68%[6] by RDT and 31%[7] by microscopy. The malaria positivity rate is 65.6%[8]. USAID's non-randomized EUV of health facilities, conducted in 2015, found that 96% of children under-five who tested positive for malaria were prescribed an ACT. In 2015, USAID filled all the gaps in RDTs and is committed to maintaining adequate stock in the country in order to meet increased RDT consumption.

Progress since USAID malaria program was launched

[5] Guidelines for the treatment of malaria -- 2nd edition. World Health Organization, 2010. http://whqlibdoc.who.int/publications/2010/9789241547925_eng.pdf

[6] EUV 2015

[7] EUV 2015

[8] *DSNIS 2015*

Since the USAID malaria program was launched in 2009, Burundi was able to review the malaria treatment guidelines, roll out and scale-up the use of RDTs and introduce and scale up integrated community-case management (iCCM). Currently RDTs are used nationwide and at community level.

Progress in the past 12 months

USAID has pledged to support confirmatory diagnosis of suspected malaria cases. In the last year, USAID procured a total of 5,200,000 RDTs for distribution through CAMEBU, for use in health facilities nationwide, as well as for iCCM. Despite high levels of confirmatory testing noted in the HMIS, supervisory visits and the EUV survey reveal that there is still a need for continuous refresher training and supervision in proper malaria diagnosis. The 2015 EUV revealed that the number of health facilities with at least one staff trained in microscopy was only 56% however, 84% of facilities had at least one staff trained in RDTs. This is due to rapid turnover in health facility staff.

The table below describes the current RDT gap analysis. Using numbers agreed on by the national quantification committee, the table below has taken into account the upsurge in 2015 and 2016 malaria cases.

Commodity gap analysis

Table 5: RDT Gap Analysis

Calendar Year	2015	2016	2017
RDT Needs			
Total country population	9,507,982	9,736,174	9,969,841
Population at risk for malaria	9,507,982	9,736,174	9,969,841
Targeted at-risk population	9,507,982	9,736,174	9,969,841
Total number of projected fever cases	8,279,746	10,614,377	8,695,297
Percent of fever cases tested with an RDT	82%	90%	80%
Total RDT Needs[1]	**6,789,392**	**9,552,939**	**7,704,179**
Partner Contributions			
RDTs carried over from previous year	2,040,500[2]	2,909,725[3]	
RDTs from Government		833,318	833,318
RDTs from Global Fund	1,122,450	2,651,750	1,949,195

RDTs from Other Donors	12,500		
RDTs planned with PMI funding	5,200,000	2,410,275	5,127,800
Total RDTs Available	8,375,450	8,805,068	7,910,313
Total RDT Surplus (Gap)[4]	**2,909,725[3]**	**(747,871)**	**206,204**

[1]This is the amount of stock that needs to be sitting in warehouses along the supply chain to avoid stockouts at the facility level. This should be reassessed each year.
[2] Physical inventory as of December 31, 2014.
[3] Physical inventory as of December 31, 2015.
[4]Surpluses are carried over into the next year, but deficits are not.
** Gap possibly to be covered by the Global Fund*
° Government control of the delivery which is expected in May 2016

NMCP/USAID objectives in treatment
Burundi malaria treatment guidelines recommend artesunate-amodiaquine (AS-AQ) co-formulated fixed dose for first-line treatment for uncomplicated malaria. For patients who fail to respond to AS-AQ, a seven-day course of oral quinine-clindamycin is the recommended second-line treatment. For treating malaria infections during pregnancy, quinine-clindamycin is used during the first trimester, while AS-AQ is recommended for the second and third trimesters. Injectable artesunate is the recommended treatment for severe malaria.

The MOH, through the NMCP and partners, is scaling up iCCM, taking into account the malaria prevalence in health districts. Along with the Global Fund, UNICEF and WHO are committed to integrate diarrhea and pneumonia to the community health workers' (CHWs) package and to expand the strategy geographically.

Progress since USAID malaria program was launched
See response above under diagnosis and treatment.

Progress during the past 12 months
USAID remains committed to supporting access to treatment for confirmed malaria cases throughout the country. In the last fiscal year, USAID procured 2,410,650 doses of ACTs and 5,200,000 RDTs to meet 2015 commodity needs. According to the 2015 EUV, ACTs treated 98% of children under five years.

The government of Burundi (GOB) has committed funds to cover all needs for severe malaria treatment and for second-line treatment of uncomplicated malaria.

The iCCM project continues to focus on proper diagnosis and treatment of malaria in children under five years old at the community level and has been expanded to Vumbi District in Kirundo Province, Bubanza and Mpanda districts in Bubaza Province and in Butezi District in Ruyigi Province, training an additional 397 CHWs. To date, all previous CHWs have benefited from refresher training and replacement of used and/or missing equipment in their medical kits. In 2016, 91% of children who tested positive for malaria with RDTs at the community level were treated with ACTs within 24 hours of onset of fever. Tremendous progress has been achieved in the referral of children with RDT-negative

test results. In fact, nearly 90% of children who tested negative were promptly referred to the nearest health facility.

Commodity gap analysis

Table 6: ACT Gap Analysis

Calendar Year	2015	2016	2017
ACT Needs			
Total country population	9,507,982	9,736,174	9,969,841
Population at risk for malaria	9,507,982	9,736,174	9,969,841
National-targeted at-risk population	9,507,982	9,736,174	9,969,841
Total projected number of malaria cases	5,105,441	6,580,913	6,738,855
Total ACT Needs[1]	**5,000,345**	**6,383,486**	**7,106,422**
Partner Contributions			
ACTs carried over from previous year	1,138,917[2]	66,225[3]	-
ACTs from Government	-	-	-
ACTs from Global Fund	4,263,274	1,784,028	1,133,110
ACTs from Other Donors	12,500	-	1,000,000
ACTs planned with PMI funding	2,410,650	2,646,163	4,973,312
Total ACTs Available	7,825,341	4,496,416	7,106,422
Total ACT Surplus (Gap)[4]	2,824,996	(1,887,070)	0

[1]This is the amount of stock that needs to be sitting in warehouses along the supply chain to avoid stockouts at the facility level. This should be reassessed each year.
[2]Physical inventory as of December 31, 2014.
[3]Physical inventory as of December 31, 2015.
[4]Surpluses are carried over into the next year, but deficits are not.

Plans and justification

Malaria laboratory diagnosis is a key component of high quality case management and USAID will continue to support the strengthening of microscopic and RDT diagnosis of malaria in health facilities and at the community level. According to the new RDTs selection policy from PMI, Burundi will only purchase *Plasmodium falciparum* tests and the laboratory technicians will be encouraged to do more microscopy for each negative or non-determined RDT result to detect other species.

Ensuring prompt, effective, and safe ACT treatment to a high proportion of patients with confirmed malaria in Burundi represents a key challenge for the NMCP and its partners. Furthermore, to avoid complications or deaths resulting from delayed care seeking or some other cultural barriers, iCCM is an effective approach to ensure that children under five years old have access to prompt and effective treatment.

Using existing funding pipeline, USAID will continue to support iCCM in Burundi into 2017, as will the current bilateral partner. The plan thereafter is to continue support for iCCM using a new field support mechanism, a bilateral project, or both so that there is no break in implementation.

Proposed activities with FY 2016 funding: ***($3,788,212)***

- *Procurement of RDTs:* Procure up to 5,127,800 RDTs to contribute to the estimated RDT need based on the new requirements of current diagnosis protocols. ($1,897,286);
- *Procure ACTs:* Procure about 4,973,312 AS-AQ treatments, which will contribute to filling the entire gap for calendar year 2017, along with contributions from other partners. ($1,690,926);
- *Strengthen community case management:* Continue support for iCCM of malaria with CHWs in communities in the current four province target area, and expand into other communities, as part of a comprehensive iCCM package of services ($200,000).

b. Pharmaceutical management

NMCP/USAID objectives
An uninterrupted supply of malaria commodities is essential to reduce morbidity and mortality due to malaria. A strong pharmaceutical management and supply chain system requires that multiple components such as quantification, distribution, and procurement function seamlessly. The Department of Pharmacies, Medicines, and Laboratories (DPML) is the division of the MOH charged with providing oversight to the pharmaceutical sector. The DPML oversees the central purchasing and warehousing agency, CAMEBU.

CAMEBU is responsible for all procurement and management of all public sector pharmaceuticals destined for public health facilities, both government and faith-based health facilities that follow GOB policies. The DPML updates the essential drugs list about every three years with CAMEBU issuing tenders, procuring, and managing the distribution of essential drugs to public sector facilities. With the income from user fees, districts and hospitals may opt to purchase additional supplies and drugs from the private sector. Health element/disease programs are essentially vertical, responsible for the management of their commodities, including the management of orders, procurement, distribution, and general oversight to CAMEBU as it relates to their commodities. CAMEBU shares distribution and inventory data on a monthly basis with the NMCP. CAMEBU does not currently manage ITNs, but discussion is underway in light of the policy change that districts manage ITNs as essential drugs. The space to store ITNs in CAMEBU is limited.

The MOH operates both a push and pull pharmaceutical supply system depending on district needs. Distribution to districts occurs intermittently due to costs and a significant lack of functional transportation vehicles for distribution. Quantification of pharmaceutical supplies is primarily based on districts' requests rather than any prior forecasting or planning by the DPML or CAMEBU. With the MOH's decentralization of the health system, provincial warehouses no longer exist. Instead, district personnel submit requests directly to CAMEBU through request forms that are sent or delivered in-

person by the district on a monthly basis. Health center personnel collect supplies from the district level, paying by cash or credit. Stock level parameters are a maximum of 14 months and minimum of nine nationally, with a desired amount of stock of 12 months and a maximum and minimum of nine and six months at CAMEBU.

Although CAMEBU functions fairly well there are still many constraints in the pharmaceutical management and supply chain system throughout the country. Some hospitals and districts have computers and logistics management information systems, but the systems are neither linked to each other or to CAMEBU's system to facilitate quick, automated national quantification and ordering. Currently hospitals can order directly from CAMEBU and immediately receive malaria-related medicines, while health districts must go through an indirect process of approvals.

The national malaria strategic plan for 2013-2017 highlights the objective of ensuring a functioning national supply chain system and ensuring the availability of quality-assured malaria medicines and diagnostics. These assured medicines should also follow the national guidelines on malaria treatment. Achieving the case management objectives outlined in the strategic plan hinges on guaranteeing a strengthened supply chain system and the sustained availability of malaria commodities.

Progress since USAID malaria program was launched

Since the beginning of the USAID malaria program in Burundi, malaria commodity delivery has improved due to better coordination with donors and partners, increased training and supervision, standard operating procedures (SOPs) in pharmaceutical management and improved practices for delivering commodities. When the USAID malaria program began, stockouts were the norm and it took months for malaria commodity orders to be delivered and distributed. USAID supported the formation of a coordination body for the management of medicine stocks to enable regular meetings to be held between CAMEBU, the NMCP, and the Global Fund. As part of this coordination body, USAID facilitated a revised requisition process for the ordering and approval of ACT orders among all partners, which has greatly decreased request and delivery time of orders. New pharmaceutical management SOPs for the district and facility level were introduced in 2012. The new SOPs greatly improved the ACT requisition system. Although stockouts are still an issue and improved donor coordination is still needed, as mentioned in the case management section, the EUV tool (although not nationally representative) indicated fewer stockouts and the ability to maintain stock and timely receipt of commodity requests, which is detailed below.

Progress during the last 12 months

In the past 12 months USAID continued to support the strengthening of the malaria pharmaceutical management system, including drug forecasting, procurement, storage, inventory, and transportation. USAID continued to support the coordination body for the management of medicine stocks to enable regular meetings led by the DPML and held among CAMEBU, the NMCP, and the Global Fund. Monthly stock status reports and meetings are still held in an effort to improve planning and coordination and adherence to supply plans has improved. USAID also continued to support trainings on supply planning, quantification, and pharmaceutical management practices. The National Quantification Committee for malaria commodities has been officially established and it serves as the platform for strengthening and supporting regular forecasting and supply planning exercises.

Although stockouts remain an issue, maintaining high stock availability of at least one ACT on the day of the visit has remained high. However, stockouts of RDTs were unfortunately very high, up to 26% in

2015, which was likely due to some late Global Fund orders, solidifying the increased need for coordination among donor commodity orders.

Plans and justification
USAID will continue to support strengthening of the malaria supply chain and pharmaceutical management system at the national, district, and facility levels. Continued training, supervision, and capacity building at all levels will focus on continuous quantification improvement, increased adherence to treatment guidelines and pharmaceutical management standard operating procedures. Attention to consumption and use of newly introduced commodities including injectable artesunate, SP, and clindamycin is still important for accurate procurements, availability, and proper use to avoid expiration. USAID will coordinate with the Global Fund to avoid delays in bids that cause stockouts.

Proposed activities with FY 2016 funding: ***($814,188)***

- *Strengthen national supply chain management capacity:* Continue support for supply chain logistics and pharmaceutical management at the national level in collaboration with CAMEBU, including refresher trainings, and coordination of planning committees. This investment will also strengthen the NMCP's capacity to quantify all malaria commodities, and improve pharmaceutical management capacity in targeted districts; ($734,188)
- *Support supervision of district facility level supply chain management*: In coordination with national guidelines, strengthen supply chain and logistics systems within targeted health districts (district pharmacies, *Bureaux de District de Santé*, hospitals, and health centers) to reduce stockouts and waste of essential commodities. Includes support to improve access to essential commodities at the facility. ($80,000).

4. Health system strengthening and capacity building

NMCP/USAID objectives
The NMCP was established in January 2009 and is organized into four key program units including case management, vector control, monitoring and evaluation, and resources management. These program units are supported by 21 staff members, which include two physicians, four biologists (who have received some entomology training), several laboratory technicians, and an economist. A director and a deputy director lead the program. There have been five NMCP directors since its inception in 2009; the current director was appointed in December 2015. The continual replacement of NMCP directors adversely affects the smooth functioning of the program.

Progress since USAID malaria program was launched
One of the four goals of the Burundi National Health Plan is to enhance the performance of the national health system. One of these goals is to devolve critical health system functions to the health districts, by forming and empowering district health teams. The aim is to be able to better provide quality health services, including clinical and community malaria prevention and treatment services. There are, however, no malaria focal persons at the district or health facility levels; rather, health personnel are trained to provide and manage integrated health services, including those for malaria. USAID’s health program fully supports this Burundi health goal and is funding activities to improve the health information system, drug management, the supply chain, and human capacity development in an integrated fashion at the health district level.

Progress in the last 12 months

USAID continues to provide targeted support to the NMCP with the aim to improve critical operations of their office and the functionality of their staff. This support includes facilitation of quarterly meetings with in-country RBM partners, and training in entomological skills particularly at the district sentinel sites that are key to determining insecticide needs for ITNs. Under the IHPB project, 106 pharmacy staff received training in supply chain management. Continued training of health district teams is required to gather quality data, analyze data collected, and to make informed decisions based on that analysis. As part of health district team capacity building, active collection of IPTp data occurred in 171 health facilities in Karuzi, Kayanza, Kirundo, and Muyinga until such time as IPTp is included in the routine HMIS system.

Plans and justification

USAID will continue to support the NMCP to lead the RBM partnership, which will include hosting quarterly meetings and ensuring good coordination among donors, NGOs, and government institutions charged with supporting the National Malaria Control Strategy.

Proposed activities with FY 2016 funding: ***($50,000)***

- *Support to the NMCP:* Provide support to the NMCP to host quarterly meetings with in-country RBM partners, ensuring good coordination and planning with regard to the National Malaria Control Strategy. ($50,000).

Table 7: Health Systems Strengthening Activities

HSS Building Block	Technical Area	Description of Activity
Health Services	Case Management	Improve, through training and supervision, QA systems to monitor the quality of laboratory diagnostic services. In addition, provide supervision of the iCCM activities at the health facility and *colline* level.
Health Workforce	Health Systems Strengthening	Build, through training and technical assistance, host country managerial and leadership capacity for effective malaria control particularly at the District Health Team level.
Health Information	Monitoring and Evaluation	a) Strengthen disease surveillance systems to improve decision-making, planning, forecasting, and program management. b) Improve the health information system, and in particular make sure that HMIS includes three doses of IPTp-SP.
Essential Medical Products, Vaccines, and Technologies	Case Management	Support improved forecasting, procurement, quality control, storage, and distribution of malaria commodities, such as insecticide-treated nets, artemisinin-based combination therapies, and rapid diagnostic tests.
Health Finance	N/A	
Leadership and Governance	Health Systems Strengthening	Strengthen national coordinating and regulatory bodies to direct and manage malaria resources, develop guidelines, and improve quality of services.

5. Social and behavior change communication

NMCP/USAID objectives
Social and behavior change communication (SBCC) is an important component of malaria prevention and control activities and is crucial to achieving coverage and use objectives. A National Communication Strategy for Malaria was developed in 2014 and considered during the development of the Global Fund concept note. By 2017, the strategy aims to raise awareness in the general population to increase acceptance and adoption of behaviors related to malaria prevention and treatment.

Progress since USAID malaria program was launched
Currently there is only one full-time SBCC staff person at the NMCP, and the SBCC technical working group in the NMCP is not yet functional. The NMCP decided to create an SBCC unit and appoint new staff to strengthen SBCC activities in collaboration with the central SBCC department. Nevertheless, donor-supported SBCC activities appear to have had an impact on key malaria-related behaviors. The 2012 Malaria Indicator Survey (MIS) indicates that there was significant improvement in key indicators from the baseline 2010 Demographic and Health Survey (DHS). The use of ITNs among pregnant women the night before the survey increased from 50% in 2010 to 63% in 2012. Among children under five years old, ITN use the night before the survey increased from 50% in 2010 to 56% in 2012. Despite these gains, ITN use among pregnant women and children under five years old are still below the national objective of 80%.

To prepare for the 2017 ITN mass distribution campaign and for the delivery of IRS in 11 targeted health districts, SBCC activities are needed to ensure proper ITN use by the general population and adherence to IRS activities. Furthermore, the use of clindamycin and quinine for second-line treatment of uncomplicated malaria still needs SBCC interventions to achieve better compliance.

Progress during the past 12 months
USAID's investment in SBCC activities have focused on increasing uptake of malaria services, including correct and consistent use of ITNs, prompt care seeking behavior for febrile illnesses, and ANC attendance to increase uptake of IPTp among pregnant women. During the malaria epidemic in 2015-16, USAID enhanced the communication to reach more people especially using interpersonal communication within the concerned provinces.

Plans and justification
Using an existing funding pipeline, USAID will continue to support SBCC activities in Burundi into 2017 as will the current bilateral partner. The plan thereafter is to continue support for SBCC activities using a new field support mechanism, a bilateral project, or both so that there is no break in implementation.

Proposed activities with FY 2016 funding: ***($50,000)***

- *Support malaria SBCC activities:* Using various channels, including radio, local community groups and health facilities, provide support for communication activities to promote uptake of malaria prevention and treatment services, including correct and consistent use of ITNs, prompt care seeking behavior, and promoting ANC attendance in four provinces, including Karuzi, Kayanza, Kirundo, and Muyinga. ($50,000).

6. Surveillance, monitoring, and evaluation

NMCP/USAID objectives

The NMCP is currently operating under the 2013 to 2017 national monitoring and evaluation (M&E) plan. The plan includes use of data supervision sheets to verify if planned activities have been implemented according to the annual work plans, identifying gridlocks and proposing solutions. The plan also identifies key indicators linked to the malaria control database and describes mechanisms to provide feedback to peripheral levels so that local policy makers and partners can make informed decisions about future planning, using health data. The foundation for malaria data is the Burundi Department of Statistics (DSNIS), which collects information from facilities, who are required to report the number of diagnostically-confirmed and treated cases on a monthly basis.

Progress since USAID malaria program was launched

Since the USAID malaria program started in Burundi, support has included technical input into the development of the current national M&E plan for malaria, as well as associated training of M&E technical experts who subsequently assisted with the rollout of the M&E plan by training local health officials, who, in turn, are responsible for supervising facilities and advising on data-driven decision-making at the local level.

The USAID malaria program also supported the Malaria Indicator Survey (MIS) in 2012, which provided parasitemia rates for the first time in Burundi. The USAID malaria program is supporting a Demographic and Health Survey (DHS), which was supposed to have taken place in 2015, but has been delayed due to insecurity. The pre-test is currently on course for implementation during July 2016.

The HMIS in Burundi is supported by many donors comprising USAID, the Global Fund, and the Belgian Technical Cooperation. The Global Fund through the HSS component of the HIV concept note, planned to support both provincial and district levels to install and train all teams on the District Health Information System II (DHISII) software that will replace the lower performing GESIS[9] system that was previously in use. The USAID budget for HMIS activities takes into account all the existing partners' contributions.

Progress during the last 12 months

During the last 12 months USAID completed support for the rollout of the malaria M&E plan and is continuing to provide technical advice and support for supervision. USAID malaria funds also contributed to the DHS. The country is experiencing instability, which is having a negative impact on all sectors, including the NMCP and the implementation of their national strategy. As mentioned, the 2015 DHS has been delayed and is only now getting started, with fieldwork targeted for September to December 2016.

The USAID malaria program plans to continue support for supervision related to the malaria M&E plan, with its focus on data-driven decision-making and to support the central level to conduct data checks in health facilities in order to validate district-level information. USAID also plans to conduct two end-use verification (EUV) surveys.

[9] GESIS= *Gestion du Système d'Information Sanitaire* (a software previously used in the HMIS)

Table 8: Surveillance, Monitoring, and Evaluation Data Sources

Data Source	Survey Activities	Year								
		2010	2011	2012	2013	2014	2015	2016	2017	2018
Household surveys	Demographic Health Survey (DHS)							X		
	Malaria Indicator Survey (MIS)			X						
	EPI survey									
Health Facility and Other Surveys	School-based malaria survey									
	Health facility survey									
	SPA survey									
	EUV survey							(X)	(X)	(X)
Malaria Surveillance and Routine System Support	Support to malaria surveillance system									
	Support to HMIS				X	X	X	(X)	(X)	(X)
Therapeutic efficacy monitoring	In vivo efficacy testing									
Entomology	Entomological surveillance and resistance monitoring			X	X	X	X	(X)	(X)	(X)
Other Data Sources	Malaria Impact Evaluation									

X – activities completed or under-way; (X) – activities planned

Table 9: Routine Surveillance Indicators

Indicators	Value
1. Total number of reported malaria cases Data source: **HMIS 2015**	6,234,917
Total diagnostically confirmed cases	6,220,068
Total clinical/presumed/unconfirmed cases	14,849
Outpatient number of reported malaria cases	6,021,990
Diagnostically confirmed	6,007,141
Clinical/presumed/unconfirmed	14,849
Inpatient number of reported malaria cases	212,927
Diagnostically confirmed	212,927
Clinical/presumed/unconfirmed	0
2. Total number of reported malaria deaths Data source: DSNIS	4,607
Diagnostically confirmed	4,607
Clinical/presumed/unconfirmed	0
3. Malaria test positivity rate (outpatients) Data source: DSNIS	65.6%
Numerator: Number of outpatient confirmed malaria cases	6,007,141
Denominator: Number of outpatients receiving a diagnostic test for malaria (RDT or microscopy)	9,063,668
4. Completeness of monthly health facility reporting Data source: DSNIS	95.4%
Numerator: Number of monthly reports received from health facilities	11,609
Denominator: Number of health facility reports expected (i.e., number of facilities expected to report multiplied by the number of months considered)	12,168

Plans and justification

Using FY 2016 funding, USAID plans to continue to support the HMIS data collection tools, which will include IPTp for the first time, by facilitating supervision and routine data audits and validation at the health facility and health district level, as part of the M&E strategy to have reliable data for decision-making at the local level. USAID will also support two EUVs as part of the overall supply chain management support. Finally, USAID will continue to support entomologic surveillance and entomology surveys for vector densities and vector resistance, which are described in the Entomologic Monitoring section.

Proposed activities with FY 2016 funding: ***($365,000)***

- *Support to HMIS*: Support training for 17 provincial and 46 district data managers on the HMIS data collection tools taking into account the addition of IPTp tracking; these funds are being combined with other USAID funds to support this activity in the target areas. Other donors including the Global Fund and the Belgian Technical Cooperation support trainings in the rest of the country. ($130,000)
- *Support EUV*: Support two EUVs. ($75,000); and,

- *Support routine data quality assessment:* Support audit and validation of routine data in all health districts, before publication of HMIS. This will consist of district health teams reviewing raw data at health facilities, conducting an in-depth analysis, and advising corrective actions before sending the information to the national level. In addition to USAID, both the Global Fund and the Belgian Technical Cooperation support this activity. ($160,000).

7. Operational research: Currently not supported by USAID.

8. Staffing and administration

Burundi is a Field Office and with the dispensing of East Africa's Regional Program oversight, Burundi is now "twinned" with USAID/Rwanda. Traditionally two health professionals oversee the USAID Malaria Team in Burundi; however the malaria team lead position has been vacant for three years in spite of active and continuing recruitment by the Mission. The extended vacancy results in sufficient pipeline funding to fund staffing and operational costs for the year without new funds.

The malaria team shares responsibility for development and implementation of USAID malaria strategies and work plans, coordination with national authorities, managing collaborating agencies and supervising day-to-day activities. The team receives support from cross-cutting positions on the health team, primarily in monitoring and evaluation and supply chain. USAID/Burundi has also now recruited a Budget Specialist in Bujumbura who supports budget planning, execution, and reprogramming. These positions do not rely on PMI operational funds for their support.

The USAID malaria professional staff work together to oversee all technical and administrative aspects of the malaria program, including finalizing details of the project design, implementing malaria prevention and treatment activities, monitoring and evaluation of outcomes and impact, reporting of results, and providing guidance to partners.

The USAID lead in country is the USAID Country Representative. The day-to-day lead for the USAID malaria program is delegated to the USAID Health Team Leader. Currently this position is also vacant and is being covered with TDYs through the first quarter of FY 2017, until the new Team Lead is brought on board. The Foreign Service national FSN malaria staff, reports to the USAID Health Team Leader for day-to-day leadership. Technical expertise housed in Washington guides PMI programmatic efforts in Burundi.

Locally hired staff to support USAID malaria activities either in Ministries or in USAID will be approved by the USAID Country Representative. Because of the need to adhere to specific country policies and USAID accounting regulations, and due to the current political situation, no transfer of USAID malaria funds directly to Ministries or host governments is envisioned.

Proposed activities with FY 2016 funding: ***($0)***

In-country USAID staff salaries, benefits, travel, and other malaria program administrative costs: For the last three years, Burundi has been unsuccessful in filling the malaria advisor vacancy. Although solicitations were issued and interviews were conducted, none of the preferred candidates chose to accept the position. The ordered departures of staff and the continuing violence in Burundi make it difficult to attract staff. USAID management in Burundi has placed additional emphasis on filling the malaria advisor position and other health team vacancies. Pipeline funds will be sufficient to pay current

malaria-related, Administrative and Oversight costs for the Burundi office, including salary, benefits and related ICASS costs of the FSN malaria specialist, as well as to hire an additional malaria staff. The recruitment of the malaria advisor is considered priority for this fiscal year and is underway as of this writing.

Table 1: Budget Breakdown by Mechanism

Mechanism	Geographic Area	Activity	Budget ($)	%
AIRS	Nationwide	Support for entomological capacity, monitoring and surveillance.	$500,000	5
GHSC - PSM	Nationwide	Procurement and distribution of ITNs, communications support for mass campaign, procurement of RDTs and ACTs, support for supply chain strengthening, implementation of end-use verification surveys.	$8,295,000	87
IHPB	Karuzi, Kirundo, Kayanza, and Muyinga	Supervision of IPTp, SBCC, and community case management activities.	$415,000	4
Measure Evaluation	Nationwide	HMIS support including routine data quality assessment.	$290,000	3
USAID	Nationwide	Staffing and administration costs.	$0	-
Total			**$9,500,000**	100

Table 2: Budget Breakdown by Activity

Proposed Activity	Mechanism	Budget ($)		Geographic Area	Description
		Total	Commodity		
PREVENTIVE ACTIVITIES					
VECTOR MONITORING AND CONTROL					
Entomologic monitoring and insecticide resistance management					
Support entomological capacity	AIRS	500,000		Nationwide	Continue support entomological capacity , monitoring and surveillance particularly in the 8 sentinel sites
Subtotal Ento monitoring		500,000			
Insecticide-treated Nets					
Procurement of ITNs	GHSC-PSM	2,880,100	2,880,100	Nationwide	Procure 867,500 rectangular ITNs
Distribution of ITNs	GHSC-PSM	867,500		Nationwide	Distribute 867,500 ITNs
Communication support for 2017 MDC	GHSC-PSM	100,000		Nationwide	Support communication activities during the 2017 mass distribution campaign.
Subtotal ITNs		3,847,600	2,880,100		
SUBTOTAL VECTOR MONITORING AND CONTROL		4,347,600	2,880,100		
Malaria in Pregnancy					
Supervision of IPTp	IHPB	85,000		Karuzi, Kayanza, Kirundo and Muyinga	Provide support for IPTp at ANC in the 4 focus provinces where IPTp is being rolled out.
Subtotal Malaria in Pregnancy		85,000			
SUBTOTAL PREVENTIVE		4,432,600	2,880,100		

CASE MANAGEMENT					
Diagnosis and Treatment					
Procurement of RDTs	GHSC-PSM	1,897,286	1,897,286	Nationwide	Procure 5,127,800 RDTs.
Procurement of ACTs	GHSC-PSM	1,690,926	1,690,926	Nationwide	Procure 4,973,312 ACT treatments
Strengthen community case management	IHPB	200,000		Karuzi, Kayanza, Kirundo, and Muyinga	Continue to support community case management including supervision
Subtotal Diagnosis and Treatment		3,788,212	3,588,212		
Pharmaceutical Management					
Strengthen national supply chain management capacity	GHSC-PSM	734,188		Nationwide	Continue to support supply chain logistics and pharmaceutical management at the national level and district level (except the supported provinces by IHPB), including rollout of SMS text messaging in other districts.
Support supervision of district and facility level supply chain management	IHPB	80,000		Karuzi, Kayanza, Kirundo, and Muyinga	Continue to support supply chain supervision in the four IHPB provinces.
Subtotal Pharmaceutical Management		814,188			
SUBTOTAL CASE MANAGEMENT		4,602,400	3,588,212		
HEALTH SYSTEM STRENGTHENING / CAPACITY BUILDING					
Support to NMCP	GHSC-PSM	50,000		Central	Provide support to the NMCP to implement national malaria strategy, including quarterly

					meetings with in-country partners.
SUBTOTAL HSS & CAPACITY BUILDING		50,000			
SOCIAL AND BEHAVIOR CHANGE COMMUNICATION					
Support malaria SBCC activities	IHPB	50,000		Karuzi, Kayanza, Kirundo, and Muyinga	Provide support to supervise communication activities for the prevention and treatment of malaria
SUBTOTAL SBCC		50,000			
SURVEILLANCE, MONITORING, AND EVALUATION					
Support to HMIS	Measure Evaluation	130,000		Nationwide	Support trainings on the new HMIS data collection tools taking IPTp into account.
Support for EUV	GHSC-PSM	75,000		Nationwide	Support two end-use verification surveys.
Support routine data quality assessment	Measure Evaluation	160,000		Nationwide	Support audit and validation of routine data in all health districts, before publication of HMIS.
SUBTOTAL SM&E		365,000			
IN-COUNTRY STAFFING AND ADMINISTRATION					
USAID		$0			Support for Resident Advisor plus full-time Malaria FSN and half-time commodity FSN.
SUBTOTAL IN-COUNTRY STAFFING		$0			
GRAND TOTAL		**$9,500,000**	**$6,468,312**		