



# USAID | DELIVER PROJECT

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## Task Order 7 Annual Report: October 2013–September 2014



NOVEMBER 2014

This publication was produced for review by the U.S. Agency for International Development. It was prepared by the USAID | DELIVER PROJECT, Task Order 7.



PRESIDENT'S MALARIA INITIATIVE





# Task Order 7

# Annual Report:

October 2013–September 2014

## **USAID | DELIVER PROJECT, Task Order 7**

This document was prepared by staff of the USAID | DELIVER PROJECT, Task Order 7, which is funded by the U.S. Agency for International Development (USAID) under contract number GPO-I-00-06-00007-00, order number AID-OAA-TO-11-00012, beginning on March 28, 2011. Task Order 7 is implemented by John Snow, Inc., in collaboration with 3i Infotech, Inc.; Crown Agents USA, Inc.; FHI 360; Foundation for Innovative New Diagnostics; Logenix International, LLC; The Manoff Group, Inc.; MEBS Global Reach, LC; PATH; PHD International (a division of the RTT Group); Population Services International; Social Sectors Development Strategies, Inc.; UPS Supply Chain Solutions, Inc.; and VillageReach. Task Order 7 supports USAID's goal of reducing the malaria burden in sub-Saharan Africa by procuring and delivering safe, effective, and high-quality malaria commodities; by providing technical assistance and on-the-ground logistics expertise to strengthen in-country supply systems and build capacity for managing commodities; and by improving the global supply and long-term availability of malaria commodities.

### **Recommended Citation**

USAID | DELIVER PROJECT, Task Order 7. *Task Order 7 Annual Report: October 2013–September 2014*. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 7.

### **Abstract**

This report describes the activities and achievements of the USAID | DELIVER PROJECT, Task Order 7, from October 1, 2013–September 31, 2014. The project works to improve the lives of men, women, and families by strengthening the supply chains that deliver health commodities, developing sustainable national capacity and ownership for operating the supply chain, and cultivating enabling environments for malaria products.

Cover photos:

*A pharmacist at the Paquitequite health center in Pemba, Nampula, Mozambique explains to a malaria patient how to take Coartem. Photo credit: Arturo Sanabria for the USAID | DELIVER PROJECT 2014.*

*An antenatal care client receives a bed net from a health provider in Nampula, Mozambique. Photo credit: Arturo Sanabria for the USAID | DELIVER PROJECT 2014.*

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# Acronyms

3PL	third-party logistics
ACT	artemisinin-based combination therapy
AIDS	acquired immune deficiency syndrome
A/L	artemether/lumefantrine
AMP	Alliance for Malaria Prevention
ANC	antenatal care
AS/AQ	artesunate/amodiaquine
AutoDRV	automated delivery/receipt voucher
BCC	behavior change communication
CAMEG	Central Medical Stores
CCB	Change Control Board
CDC	Centers for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CHD	county health department
CMS	Central Medical Store
CNC	National Coordination Committee
COA	certificate of analysis
CPIR	commodity procurement information request
DDIC	direct delivery and information capture
DFID	Department for International Development
DHS	Demographic and Health Survey
DRC	Democratic Republic of Congo
EIWG	Emerging Issues Working Group
eLMIS	electronic logistics management information system
EMLIP	Essential Medicines Logistics Improvement Program
EMMP	Environmental Mitigation and Monitoring Plan
EPI	Expanded Programme on Immunization
ERP	enterprise resource planning
EUV	End-Use verification
FDC	fixed-dose combination
FIND	Foundation for Innovative Diagnostics
FY	fiscal year
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHS	Ghana Health Service
HIV	human immunodeficiency virus
ID	institutional delivery

IDIQ	indefinite delivery indefinite quantity
IHS	Imperial Health Science
ILS	Integrated Logistics System
ILSG	ILSGateway
JSI	John Snow, Inc.
LGA	local government area
LLIN	long-lasting insecticide-treated bed net
LMIS	logistics management information system
LMO	Logistics Management Office
LMU	logistics management unit
LSAT	Logistics System Assessment Tool
M&E	monitoring and evaluation
MIS	management information system
MMK	malaria microscopy kit
MMSCT	Medicines and Medical Supplies Coordination Team
MOH	Ministry of Health
MOHCC	Ministry of Health and Child Care
MOHSW	Ministry of Health and Social Welfare
MOP	Malaria Operational Plan
MOS	months of stock
MOU	memorandum of understanding
MPPD	Medical Procurement and Distribution Division (acronym changed but do not know the new name if there is one)
MSD	Medical Stores Department
MSL	Medical Stores Limited
NDS	National Drug Stores
NGO	nongovernmental organization
NIHR	National Institute for Health Research
NMCC	National Malaria Control Center
NMCP	National Malaria Control Program
NMEP	National Malaria Elimination Program
NPSC SP	National Pharmaceutical Supply Chain Strategic Plan
OAA	Office of Acquisition and Assistance
Pf	<i>Plasmodium falciparum</i>
PHCP	Primary Health Care Package
PHEIC	Public Health Emergency of International Concern
PMI	President's Malaria Initiative
PMP	Performance Monitoring Plan

POD	proof of delivery
PPMRm	Procurement Planning and Monitoring Report for malaria
PSC	parallel supply chain
PSI	[only use their acronym]
PSM WG	Procurement and Supply Chain Management Working Group
QA	quality assurance
R&R	report and request
RBM	Roll Back Malaria (project)
RDMA	Regional Development Mission Asia
RDT	rapid diagnostic test
SALMOUS	Standard for Articles Legally Marketed Outside of the USA
SC4CCM	Supply Chains for Community Case Management
SCM	supply chain management
SCMgr	Supply Chain Manager (software)
SCMS	Supply Chain Management System
SCMU	Supply Chain Management Unit
SDP	service delivery point
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SIMAM	System for Management of Medicines and Medical Supplies
SOP	standard operating procedure
SP	sulfadoxine-pyrimethamine
SPIU	Single Project Implementation Unit
STTA	short-term technical assistance
TA	technical assistance
TB	tuberculosis
TO	task order
TO Malaria	Task Order Malaria
TWG	technical working group
UG	University of Ghana
UNICEF	United Nations Children's Fund
UPS SCS	UPS Supply Chain Solutions
USAID	U.S. Agency for International Development
USG	U.S. Government
VHW	village health worker
WB	World Bank
WHO	World Health Organization
WHOPES	World Health Organization Pesticide Evaluation Scheme
WFP	World Food Program

ZAPS Zimbabwe Assisted Pull System  
ZIP Zimbabwe Informed Push

# Executive Summary



Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT.

Woman receiving an LLIN at her first antenatal consultation at Rapale health center in Nampula province, Mozambique.

and expand USAID's provision of antimalarial commodities to country programs; (2) to strengthen in-country supply systems and their capacity for managing antimalarial commodities; and (3) to improve global supply and the availability of antimalarial commodities. The level of effort varies across the objectives: 50 to 60 percent for Objective 1, 30 to 40 percent for Objective 2, and 5 to 7 percent for Objective 3. To achieve these objectives, TO Malaria works in partnership with PATH; Crown Agents Consultancy, Inc.; Imperial Health Science (IHS); UPS Supply Chain Solutions (UPS SCS); Logenix International, LLC; MEBS Global Reach, LLC; FHI 360; the Manoff Group, Inc.; 3i Infotech; Foundation for Innovative New Diagnostics (FIND); Social Sectors Development Strategies, Inc.; VillageReach; and PSI.

Products are needed for malaria programs to meet the goal of reducing malaria-related morbidity and mortality. These include products for the prevention, diagnosis, and treatment of malaria. Strong health programs cannot function without well-designed, well-operated, and well-maintained supply chain systems to manage and move those products. The USAID | DELIVER PROJECT works to procure these products, strengthen the supply chains that deliver health commodities, improve supply chain visibility and accountability, and build local capacity to sustain system performance.

This annual report covers October 1, 2013–September 30, 2014; it describes the activities of Task Order 7 (TO7), also called Task Order Malaria (TO Malaria), under the USAID | DELIVER PROJECT indefinite quantity contract with John Snow, Inc. TO Malaria is part of the U.S. Government's (USG) effort to fight malaria in sub-Saharan Africa, through the President's Malaria Initiative (PMI). The initiative works in 19 African focus countries and the Mekong region. PMI is a joint initiative led by the U.S. Agency for International Development (USAID) and the Centers for Disease Control and Prevention (CDC). TO Malaria has a long-term presence in 13 of the PMI-focus countries.

TO Malaria has three main objectives, under which all its activities are organized: (1) to improve, implement,

## PMI focus and non-focus countries with long-term project presence:

- Burkina Faso
- Burundi
- Democratic Republic of Congo
- Ghana
- Guinea
- Liberia
- Madagascar
- Malawi
- Mali
- Mozambique
- Nigeria
- RDMA
- Rwanda
- South Sudan
- Tanzania
- Zambia
- Zimbabwe

# Objective I: Improve, Implement, and Expand USAID's Provision of Malaria and Related Commodities to Programs Worldwide

## Timely, Transparent, Cost-Effective Procurement of Quality Malaria Products

A principal activity of Task Order 7 (TO7) is to support the PMI by procuring malaria commodities in response to requests placed by the U.S. Agency for International Development (USAID) Missions; the requests are based on the needs outlined in the yearly Malaria Operational Plans (MOPs). During fiscal year 2014 the project processed requests for procurement assistance from 25 countries: Angola,

Benin, Burkina Faso, Burundi, Cambodia, Democratic Republic of Congo (DRC), Ghana, Guinea, Kenya, Laos, Liberia, Madagascar, Malawi, Mali, Mozambique, Burma, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Thailand, Uganda, Zambia, and Zimbabwe.



Photo Credit: Arturo Sanabria for the USAID | DELIVER PROJECT.

Woman being tested for malaria at Rapale health center in Nampula province, Mozambique.

### Major procurement items during this reporting period:

- 27.4 million long-lasting insecticide-treated bed bed nets
- 107.7 million artemisinin-based combination therapy treatments: 77 million treatments of artemether lumefantrine, 2.6 million treatments of generic AL and 28.1 million treatments of fixed-dose combination artesunate/amodiaquine
- 75.3 million rapid diagnostic tests
- 18.9 million sulphadoxine-pyrimethamine tablets for intermittent preventative treatment in pregnancy
- 14.4 million quinine tablets and injections for the treatment of severe malaria
- 200 microscopes and laboratory kits for malaria.

## Efficient and Secure Delivery of Procured Commodities

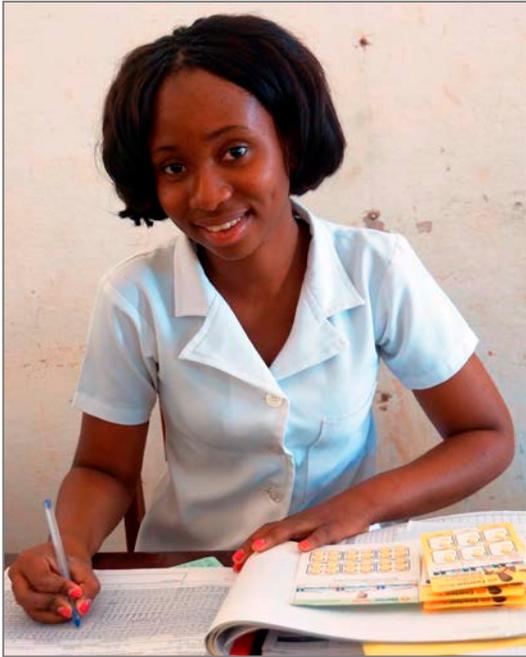


Photo Credit: Arturo Sanabria for the USAID | DELIVER

The chief pharmacist in Rapale, Nampula, Mozambique, fills out an ACT consumption form.

From October 2013–October 2014, the TO7 successfully forwarded commodities to support malaria programs in 25 countries: Angola, Benin, Burkina Faso, Burma, Burundi, Cambodia, DRC, Ghana, Guinea, Kenya, Laos, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Thailand, Uganda, Zambia, and Zimbabwe.

The freight team coordinated the in-country distribution of long-lasting insecticide-treated bed nets (LLINs) to several districts in Benin; artemisinin-based combination therapy (ACTs) and LLINs in Nigeria; ACTs in DRC; ACTs, LLINs, laboratory malaria kits, and rapid diagnostic test (RDTs) in Angola; and ACTs, RDTs, and SMKs in South Sudan. The freight team also coordinated warehousing in Angola, Guinea, and South Sudan.

### Provided High-Quality, Safe, and Effective Malaria Products

The project, through the quality assurance (QA) team, consistently works to ensure that countries receive high-quality, safe, and effective malaria products. During the reporting period, the QA team managed pre-shipment inspection and testing for 86 LLIN orders and 39 orders of RDTs. TO7 contracted with FIND to support lot testing of RDTs through the World Health Organization (WHO) laboratories. FHI 360 reviewed the manufacturer's certificates of analysis (COA) for all batches of Coartem procured by the project (533 batches over 80 orders). They subjected batches to analysis using near-infrared technology to further ensure the delivery of good-quality products. FHI 360 reviewed COA for every batch of artesunate/amodiaquine (AS/AQ) procured from Sanofi-Aventis, performed chemical assay testing, and also subjected these batches to near-infrared technology analysis before releasing the orders for shipment; 134 batches were tested for 35 orders. FHI 360 managed sampling, inspection, and testing of 83 batches of generic A/L from Cipla and IPCA, and a total of 250 batches for 61 orders of severe malaria drugs and essential medicines.

### Management Information Systems

The Management Information Systems (MIS) team supported the ongoing operations of TO7 in FY2014 through continual MIS availability, and providing up-to-date and accurate procurement and shipment information. Day-to-day operations were supported by recording and providing for management review of commodity needs by country and recipient program, shipment requests by country and recipient program, financial accounts by country and funding source, and the status of shipments.

# Objective 2: Strengthen In-Country Supply Systems and Capacity for Effective Management of Malaria Commodities

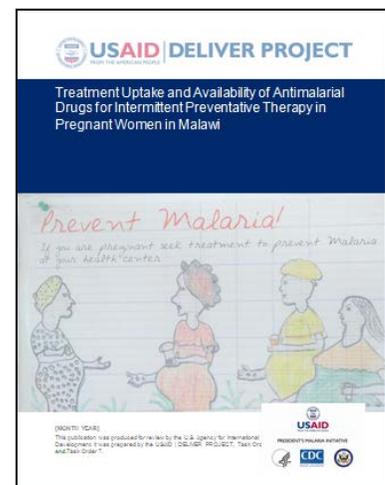
Strengthening in-country supply systems and building greater capacity for improved management of malaria commodities at the local level are critical to the success of TO Malaria and to reach PMI's goals.

## Improve System Performance to Ensure Malaria Products Are Available When and Where They Are Needed

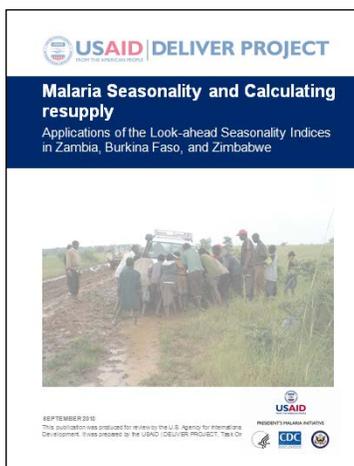
### Core-funded activities

#### *Malaria in Pregnancy*

The project produced *Treatment Uptake and Availability of Antimalarial Drugs for Intermittent Preventative Therapy in Pregnant Women in Malawi*, which explored the relationship between sulfadoxine-pyrimethamine (SP) availability and uptake among pregnant women by examining trends between SP logistics data, antenatal care (ANC) data, and Demographic and Health Survey (DHS) and Malaria Indicator Survey (MIS) survey data on IPT coverage among pregnant women. The quantitative data, with qualitative, contextual knowledge, support the hypothesis of a correlation between SP availability at the facility level and IPT uptake. Malawi's health services data show that despite strong IPT coverage, as reported in household surveys, trends from one quarter to the next quarter show a vulnerability to fluctuations in product availability.



#### *Country Stories: Zambia, Burkina Faso, and Malawi*



Entering its final year, the project began to document the key activities accomplished by the Task Order in each country. Country stories were developed for Zambia, Burkina Faso, and Malawi. These stories are data-driven; they look at improvements in the supply chain, such as reductions in stockout rates or improvements in reporting rates; as well as looking at malaria data, such as

the annual number of cases at the beginning of the project compared to the end of the project. Data are also drawn from surveys, such as the DHS and the MIS, to show improvements in key indicators, such as LLIN coverage.

### FY2014 Core Funded Activities

- RDT product selection analysis
- Country stories—Zambia, Burkina Faso, and Malawi
- Community-level analysis: Malawi
- Malaria in Pregnancy
- LLIN infographic
- Quarterly technical updates to the field
- Implementing the Look Ahead Seasonality Index
- Supply chain costing: Malawi and Zimbabwe
- Supply chain considerations for LLIN Delivery through ANC and immunization clinics
- End-Use verification
- Data dashboards
- Procurement Planning and Monitoring Report for malaria
- Risk analysis and management
- Analyses of the malaria market
- Supporting the USAID supply chain management course
- Packaging and supply chain considerations.

# Country Highlights

TO Malaria strengthens routine logistics systems in several countries (Burkina Faso, Mozambique, Nigeria, Tanzania, Zambia, and Zimbabwe); supports augmented systems in Angola, Liberia, Malawi, Nigeria, and South Sudan; and supports a system targeting nongovernmental and faith-based organizations in Madagascar. The task order also supports LLIN distribution in both campaigns and routine distribution.

The project supported the delivery of 740,000 LLINs to all provincial MOH departments, health zones, and health facilities across **Benin**.

The project delivered 1,036,600 AS/AQ treatments to the National Malaria Control Program (NMCP) in **Burkina Faso** in January 2014. This helped resolve a shortage of AS/AQ 50/135mg tabs in the national supply chain reported in December 2013, which was due to delayed Ministry of Health (MOH) consignments.

In **Burma** the project provided support directly to the Vector Borne Disease Control Program (VBDC) for the first time. The project is procuring LLINs for the VBDC, working with them and the mission to help plan how to manage the storage and distribution of 553,500 LLINs, the largest procurement the project has made in the region to-date.

In **Burundi**, the project has worked with the NMCP to distribute 662,600 LLINs throughout the country. The most noteworthy feature of recent distribution has been the expansion of the pilot program to 20 districts (expanded from 10); the project distributes LLINs to health districts, rather than health centers. Distribution continues to run smoothly in the 20 districts.

The project, working with NMCP and other partners, facilitated the transportation of 936,000 LLINs to six regions in **Ghana** for continuous distribution through antenatal and child welfare clinics. In 2014, the project also supported transportation of 1,348,200 LLINs to 171 districts for school distribution.

In **Liberia**, the project, with the Supply Chain Management Unit in the Ministry of Health and Social Welfare (MOHSW), began implementing an interim approach, including a modified top up distribution system. The result was 99 percent facility coverage, and significant decreases in the stockout rates of ACT treatments.

In **Madagascar**, project staff, the NMCP, National Reproductive Health Program, National AIDS Control Program, Malagasi Central Medical Stores, and other nongovernmental organization (NGO) partners conducted a comprehensive assessment of Madagascar's current supply chain system.

In FY2014, the project increasingly provided technical assistance to **Nigeria** to develop distribution plans and physical resupply of products procured by PMI, Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), and World Bank (WB) to more than 2,500 health facilities across the country. This effort has improved access to malaria supplies in more Nigerian communities and prevented wastage that could have resulted from expiry, including nearly 1.5 million ACTS procured by WB and GFATM.

**Malawi** had consistent availability of stock at the central level during the reporting period, with the months of stock (MOS) ranging from 1.4–7.9 for selected presentations. For logistics management information system (LMIS) reporting, the facility reporting rate for malaria products averaged 85 percent during the reporting period, reaching a maximum of 90 percent in May and July 2014. This impressive performance resulted from proactive data collection efforts by the MOH, with support from the project and other partners. As a result of this improved reporting, more data have been available for use in making better informed commodity distribution decisions.

In South Sudan the project worked with the MOH, state-level MOH, implementing partners, and the United Nations World Food Program (WFP) to address distribution challenges in a dynamic environment. The project has coordinated closely with these actors to distribute EMF malaria commodities as expeditiously as possible. From coordinating with lead NGOs on the ground, in difficult to reach counties, for direct pick-ups; to negotiating an agreement with WFP to tap into its extensive airlift capability to large areas of South Sudan, the project has proactively sought solutions to keep the medicines flowing to those who need them most.



Checking the arrival of a shipment of RDTs at the Adil warehouse in Matola, Maputo, Mozambique. Photo credit: Arturo Sanabria for the USAID | DELIVER PROJECT.

In **Zambia**, malaria products are managed through the Essential Medicines Logistics Improvement Programme (EMLIP), a pull system at service delivery points (SDPs) that use consumption data to determine their order quantities. EMLIP is currently active in 27 of 72 districts in Zambia. The 45 non-EMLIP districts receive their commodities through a push system—all SDPs receive health center kits with the same predetermined amount of certain commodities, regardless of the rate of consumption in the particular health facility. To-date, 2,412 health facility staff members have been trained in EMLIP. This represents approximately 33 percent of the national coverage.

The project continues to support routine commodity distribution in **Zimbabwe** to all 1,600 public-sector health facilities in the country. The project provides distribution and LMIS support to the Zimbabwe Informed Push/Primary Health Care Package system.

## Improve Visibility at All Levels of the Supply Chain from Central Down to the Facility and Community Health Worker Levels

### Core-funded activities

#### End-Use verification activity

The project continues to support countries in implementing the PMI End-Use verification (EUV) activity, a health facility survey that regularly captures information about the malaria supply chain and the malaria diagnosis and treatment at public health facilities. The project routinely implemented EUV in Ghana, Malawi, Mozambique, Nigeria, Tanzania, Zambia, and Zimbabwe. During the reporting period, the project initiated EUV in Liberia and Burkina Faso.

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#### Procurement Planning and Monitoring Report for malaria

The Procurement Planning and Monitoring Report for malaria (PPMRm) provides quarterly visibility of stock levels of ACT treatments, SP, and RDTs at the central level of the supply chain. Data are reported from 20 countries and 10 Nigerian states. PMI uses the PPMRm to work with other donors and host-country governments in addressing stockout situations in a number of countries; it provides critical emergency shipments and highlights potential supply problems and addresses them before large-scale stockouts can occur. During the reporting period, staff continued to collaborate with a development team in the Phase 2 upgrades to the PPMRm.



LLIN received at Rapale health center in Nampula province, Mozambique.

Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT.

# Country Highlights

In August 2014, the project initiated and funded the first technical and coordination LMIS working group in **DRC**, under the leadership of the National Essential Medicine Supply Program (PNAM). The working group meeting provided a significant opportunity for PNAM and the NMCP to share their vision of a future LMIS with all major partners and stakeholders.

In **Liberia**, the warehouse advisor seconded to the National Drug Store (NDS) worked with the team there to improve storage conditions, update and implement standard operating procedures (SOPs), and strengthen the transparency and integrity of issues and receipts data. The warehouse advisor and the NDS team have dejunked commodities to remove unusable items and expired drugs, and organized the commodities based on best practices. Products that move through NDS are now accounted for in an organized central system; stock status of commodities is available to stakeholders.

In **Malawi**, as part of the distribution of ACT treatments and RDTs through the parallel supply chain (PSC), the project continued to work with NMCP in conducting spot checks, preparing the distribution list, and reconciling proof of delivery (POD).



Malaria stock card and product in Chokwe, Gaza, Mozambique.

Photo Credit: Arturo Sanabria for the USAID | DELIVER PROJECT.

In **Mozambique**, district reporting rates for ACTs and RDTs increased by 19 percent (from 79 percent to 98 percent) and 29 percent (from 68 percent to 89 percent), respectively, during October 2013–September 2014. The districts receive these data in paper form from the health facilities and the community health workers; they are aggregated and sent in paper form to the province, where they are entered into the System for Management of Medicines and Medical Supplies (SIMAM). Each province’s SIMAM database is routinely updated and uploaded to DropBox, then downloaded at the central level for monitoring and analysis.

With the Supply Chain Management System (SCMS) project, TO Malaria has supported the implementation of the electronic logistics management information system (eLMIS) in **Rwanda**. The MOH officially launched the eLMIS on March 21, 2014; by July 2014, the eLMIS was live and rolled out in all 609 health facilities in the country. To-date, 80–90 percent of users have discarded the paper-based system; the order processing cycle time has been reduced from 4 days to 45 minutes; and managers now have stock visibility and real-time consumption data for supply planning.

Between October 2013 and September 2014, the project completed the rollout of the Integrated Logistics System (ILS) and ILSGateway to all SDPs in **Tanzania**. A total of 4,613 health facilities and 9,000 healthcare workers across the nine Medical Stores Department (MSD) zones of Tanzania have been trained and are now using the ILSGateway to report. This new approach to routine monitoring has also significantly contributed to the decreased stockout rate of ACTs from 40 percent in 2009 to 2 percent in 2014. Finally, the ease of use for both systems has improved health facilities’ timely reporting—increasing from 50 percent in 2009 to 88 percent in 2014.

**Tanzania** and **Zambia** implemented the eLMIS, a system that ensures greater commodity security and better health outcomes for the people of Zambia and Tanzania. The Tanzania office rolled out the eLMIS system during strategic trainings at different levels of the supply chain; they had trained 97 percent of the district councils by September 30, 2014.

## Strengthen the Accountability of In-Country Supply Chains that Manage Malaria Products

### Country Highlights

At the state level in **Nigeria**, project staff provided technical assistance to state Central Medical Store (CMS) officers in conducting monthly stock verification exercises within PMI-focus states to determine the stock status and state of malaria commodities in the pipeline; and to provide visibility into the commodity availability for last mile distribution to supported facilities.

## Bridge the Gap between NMCPs and Supply Chain Operators to Improve Core Supply Chain Functions

### Country Highlights

The project, with the NMCP and other partners, developed a comprehensive strategy for LLIN distribution through ANC and institutional delivery (ID) clinics in **Liberia**. Previously, the country did not have a clearly defined strategy for ANC/ID LLIN distribution. Technical assistance providers and MOH staff conducted a four-day field visit to evaluate the current situation; they conducted a three-day workshop with 12 of Liberia's 15 counties to build capacity and develop the distribution plan.



Kitting process for ACTs and RDTs at the Adil warehouse in Matola, Maputo, Mozambique.

Arturo Sanabria for USAID | DELIVER PROJECT.

In almost all project countries, technical working groups (TWGs) on the supply chain are routinely held; they bring together NMCP staff and supply chain staff. For example, in **Malawi**, the project participates in the quarterly malaria TWG meetings to share stock status, distribution updates, pipeline updates, and other relevant supply chain information.

In collaboration with in-country partners in **Nigeria**, the project piloted the integrated delivery of malaria commodities with PMTCT supplies in 20 health facilities in Cross River state. This was prior to the full integration of the logistics systems across different health program; it improved the availability of health commodities for patients using ANC services. To monitor the performance of the integration, many in-country partners jointly developed LMIS and monitoring and evaluation (M&E) tools.

## After Systems Meet Performance Levels, Build Local Capacity to Sustain System Performance

### Country Highlights

**Ghana** supported the schools of pharmacy at two universities to help train 324 from one school and 70 students from the second school in pre-service training (PST) on supply chain management of health commodities. The project, with the Ministry of Health and the Nurses and Midwives Council integrated supply chain management (SCM) into the curriculum of nurses and midwifery training schools by supporting roll-out trainings for tutors of

health training schools nationwide. In all, 104 tutors, drawn from 56 pre-service institutions across the country, were trained.

The Task Order conducts a variety of capacity building activities, including establishing and supporting logistics management units (LMUs) and conducting pre-service and in-service training activities.

In collaboration with the MOHSW, the project is supporting the implementation of an LMU in **Tanzania**. This management structure coordinates logistics management activities for different commodity categories, under one unit. Since the inception of the LMU in October 2013, the project—with SCMS, Procurement Services Section (PSS), and MSD—has conducted basic logistics training for 23 participants, representing the MOHSW newly recruited LMU staff.

## Objective 3: Improve the Global Supply of Malaria Commodities

### Strengthen International Collaboration

TO Malaria is an active member of the Procurement and Supply Chain Management Working Group (PSM WG). The Task Order director is currently the co-chair for the LMIS work stream. During the reporting period, TO7 participated in two PSM WG meetings: one October 16–18, 2013; and the other June 10–11, 2014. TO Malaria led sessions on the LMIS, initially planning for an Africa regional meeting, then reported the results.

The project planned and was the lead facilitator for a joint Roll Back Malaria (RBM), GFATM, STOP TB Partnership, and UNAIDS LMIS workshop held in Ougadougou, Burkina Faso from May 10–12, 2014; 122 participants from 24 countries participated. By early June, 17 of 22 countries had submitted final action plans; many said they were using these plans when preparing their concept note for the GFATM, under the new funding mechanism.

### Conduct Analysis of Demand, Supply, and Pricing Issues Affecting the Global Market for Malaria Products

The GFATM developed a new procurement strategy that leverages the volume available through its grants. It began the rollout of its strategy with LLINs in FY2013. In FY2014, the GFATM expanded the strategy to include ACTs. As part of the rollout, the GFATM held a vendors' meeting on March 13, with WHO prequalified ACT manufacturers, to share information on the process and anticipated volumes. Both PMI and the project participated in the meeting. They also met separately with the GFATM on the LLIN procurement. In June 2014, the GFATM announced the award of ACT framework contracts with nine vendors.

#### Countries with a logistics management unit

- Liberia
- Rwanda
- Tanzania
- Zambia
- Zimbabwe

**A logistics management unit (LMU), a management structure, is responsible for organizing, monitoring, and supporting all supply chain activities within the logistics system. Using a pattern of continuous improvement, the LMU identifies supply chain problems, develops interventions to address those problems, and implements those interventions. The LMU, typically based at the central level, should have both an operational and a strategic purpose. They are a vehicle to institutionalizing good supply chain management practices and are involved in all logistics functions, linking upstream and downstream logistics activities.**



# Objective I: Improve, Implement, and Expand USAID's Provision of Malaria and Related Commodities to Programs Worldwide

## Timely, Transparent, and Cost-Effective Procurement of Quality Malaria Products

### Procurement

A principal activity of TO7 is to support the President's Malaria Initiative (PMI) by procuring malaria commodities in response to requests placed by the U.S. Agency for International Development (USAID) Missions; the requests are based on the needs outlined in the yearly Malaria Operational Plans (MOPs). During the first half of FY2014, the project processed requests for procurement assistance from 25 countries: Angola, Benin, Burkina Faso, Burundi, Cambodia, the Democratic Republic of Congo (DRC), Ghana, Guinea, Kenya, Laos, Liberia, Madagascar, Malawi, Mali, Mozambique, Myanmar, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Thailand, Uganda, Zambia, and Zimbabwe.

### Review and Refine Procurement Systems and Procedures

To officially place an order, the project must receive a commodity procurement information request (CPIR) form. The CPIR contains the relevant information needed to initiate an order, including product specifications, requested delivery dates, consignee information, etc. Seven CPIR forms are now in use, each designed to cover a specific commodity; i.e., Coartem, rapid diagnostic tests (RDTs), and long-lasting insecticide-treated bed nets (LLINs). The forms remain *live* documents that can be modified to reflect our procurement business model with PMI.

### Operational Scale

During FY2014, the project received 269 procurement requests from 24 countries; 337 orders were placed with vendors for a total value of U.S.\$203.7 million (commodity cost only).

Major procurement items included—

- 27.4 million LLINs
- 107.7 million artemisinin-based combination therapy (ACT) treatments: 77 million treatments of artemether lumefantrine (A/L), 2.6 million treatments of generic A/L and 28.1 million treatments of artesunate/amodiaquine (FDC artesunate/amodiaquine [fixed-dose combination AS/AQ])
- 75.3 million RDTs
- 18.9 million sulphadoxine-pyrimethamine (SP) tablets for intermittent preventative treatment in pregnancy (IPTp)

- 14.4 million quinine tablets and injections for treating severe malaria
- 200 microscopes and laboratory kits for malaria.

See figures 1, 2, and 3. See appendix B for a complete list of commodities procured.

Figure 1. Total Value of Commodities Procured by Type, FY2014

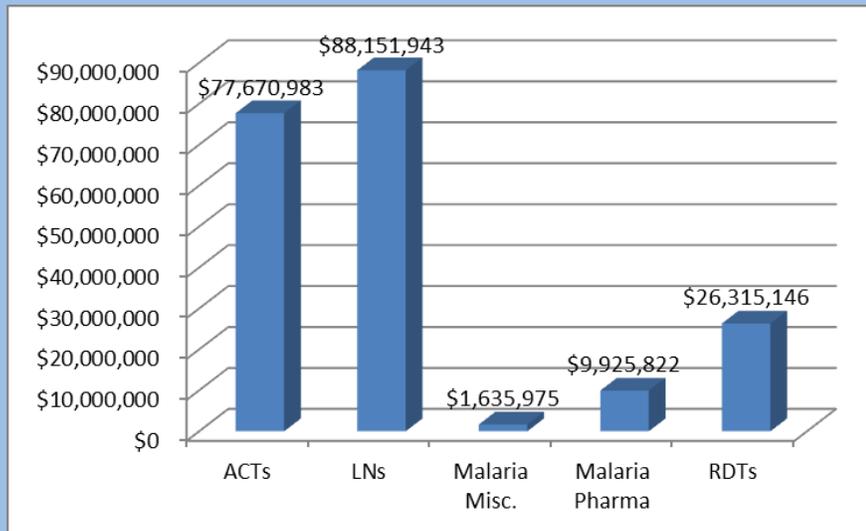


Figure 2. Comparison of Commodities Procured by Value, FY2014

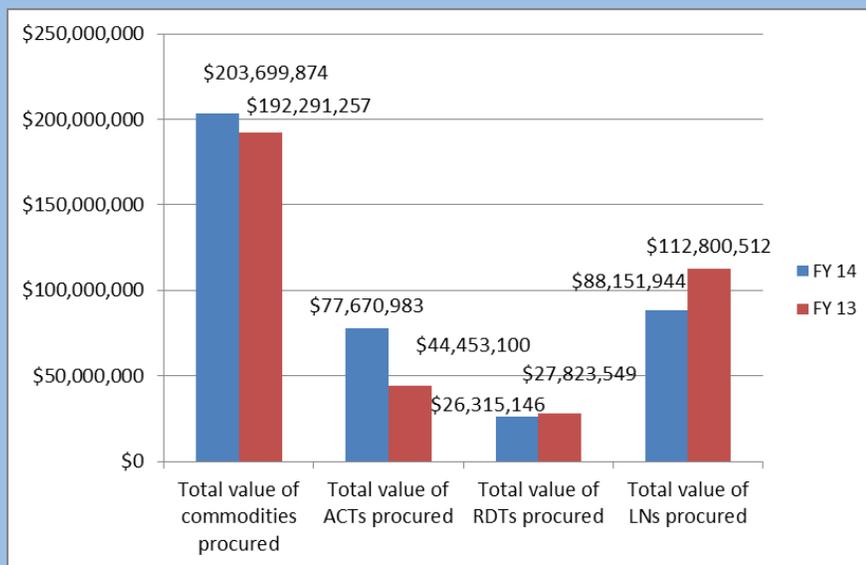
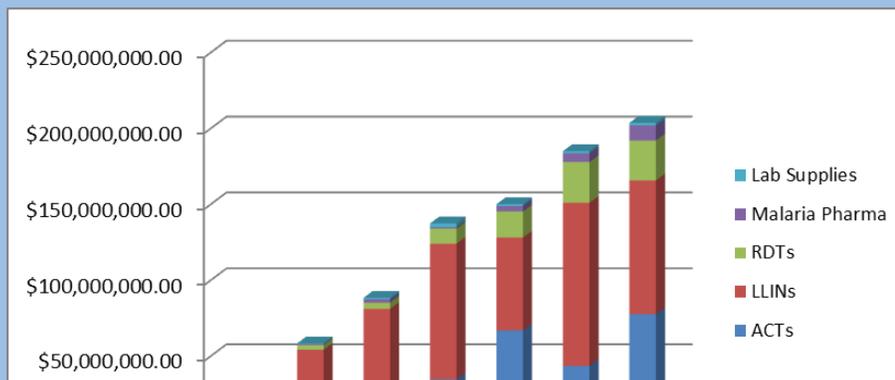


Figure 3. Total Commodities Procured, 2007–2014



During this period, the project also continued procuring commodities for Zambia and Uganda using funding from the U.K. Department for International Development (DFID). With DFID funding in FY2014, the project procured 14,473,378 LLINs; 1,000,200 ACTs; 380,000 RDTs; and a variety of essential medicines, for a total value of U.S.\$7.7 million (commodity cost only). These figures are included in the total procurement figures above. A complete report of DFID-funded procurement is included in appendix C.

### Sources and Suppliers of Commodities

The selection of a vendor/manufacturer is based on one or more of the following criteria, in response to the Request for Quote:

- overall responsiveness
- conformance to product specifications
- conformance to quality certifications and standards
- conformance to packing and marking requirements
- product price
- timeliness of deliveries
- quality of product
- product registration in-country (if applicable).

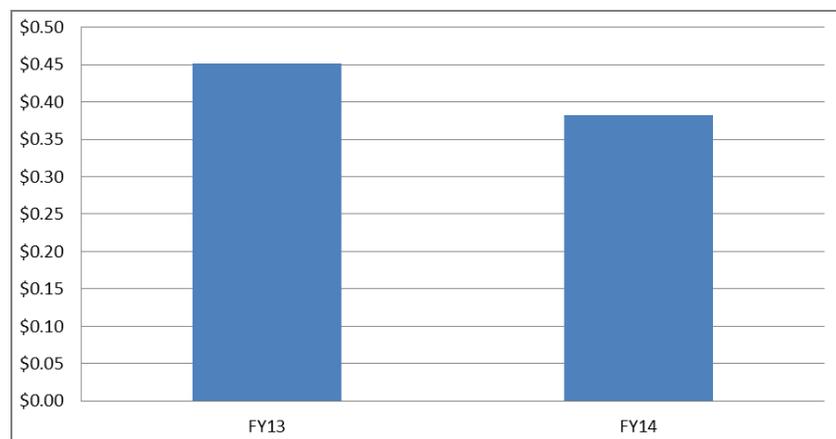
Only vendors and manufacturers that pass internal requirements—good manufacturing practices (GMP)—product stability data, previous supply record, etc.), and/or are included on the PMI preselected list, are invited to bid or quote. See appendix E and F for the current list of selected manufacturers for RDTs and LLINs.

### Indefinite Delivery Indefinite Quantity for RDTs

The implementation of the indefinite delivery indefinite quantity (IDIQ) contracts with pre-qualified manufacturers of RDTs has enabled the project to expedite the subcontract approval process; accelerate the ordering mechanism; and, ultimately, streamline the on-time delivery of RDTs to PMI countries.

During FY2014, TO7 achieved continued cost savings for the procurement of malaria RDTs. See figure 4. During this period, the average cost of RDTs was reduced by 16 percent, compared to FY2013.

Figure 4. Rapid Diagnostic Test, Average Price Change



To maintain a strong relationship with our vendors, individual meetings are organized with the RDT pre-qualified manufacturers. These meetings enable us to review the performance expectations with the manufacturers for on-time delivery, customer service, and quality assurance standards.

### **ACT Treatments**

The demand for ACTs, including A/L and AS/AQ, has drastically increased this year. During FY2014, the USAID | DELIVER PROJECT procured 107.7 million treatments of ACTs, compared to 54.5 million procured during FY2013. This increase was due, in part, to the transition plan that called for PMI countries to place orders for their needs until the end of 2015.

TO7 has maintained its own inventory of Coartem and Winthrop AS/AQ at the UPS Roermond warehouse in the Netherlands to ensure the project can respond quickly to countries' emergency orders, obtain better pricing, and mitigate supplier production risk. During FY2014, the project responded to 15 orders for 11 countries from the stockpile.

TO7 completed the negotiations and execution of the IDIQ long-term contracts with key manufacturers of AS/AQ and artemether/lumefantrine (A/L).



A maternal and child health nurse tests for malaria and HIV using rapid diagnostic tests at Mueda health center in Cabo Delgado, Mozambique.

Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT.

### **LLINs**

To continue trying for the best cost savings for PMI countries, while meeting their programmatic needs and encouraging the countries to be aware of potential cost savings, the project has included standard specifications in the procurement process of LLINs. We inform PMI countries of potential savings when they select standard or customized LLINs.

To optimize competition. and to ensure the best value for the U.S. Government, the project has determined that LLIN procurement should be divided into lots in the solicitation documents. The project performed a study, based on historical data, to determine the optimal lot size for LLINs—it is between 500,000 and 750,000 LLINs. The divisions of total requested quantity of LLINs into separate optimal lot size promotes competition and maximizes the production capacity schedule for the LLINs manufacturers.

TO7 has continued to encourage maximum competition among LLIN suppliers, while maintaining a strict quality policy. During this period, the task order pre-qualified Shobikaa Impex Private Ltd. and Bestnet A/S as additional manufacturers of the World Health Organization Pesticide Evaluation Scheme (WHOPES)-recommended Durantet LLINs. However, the Netprotect LLINs manufactured by Bestnet A/S remain suspended from the list of pre-qualified LLINS manufacturers.

### **Pharmaceuticals**

Because of a long, complex procurement process—including the registration of the pharmaceuticals in countries of destination and the long production lead time (seven to eight months)—the project has adopted the strategic approach of asking countries to provide future pharmaceuticals needs for the entire year of 2014. This approach was implemented in January 2014; it has enabled the project to respond to countries' pharmaceuticals needs.

## Procurement Scorecard and Performance Monitoring Plan Indicators

During the reporting period, using the scorecard to show results, the project continued monthly monitoring of the system performance (see table 1). The targets this year are 80 to 85 percent or higher (green), from 84 to 65 percent (yellow), and from 50 to 64 percent or lower (red). The received in-country by desired receipt date was below the target performance level (75 percent). The project will continue to review its internal procedures used to set these dates and will work with missions and field offices to set realistic dates for deliveries, based on standard lead times.

The project was unable to meet its objectives for on-time delivery primarily because of the long pre-clearance and customs process in some countries—including DRC, Mozambique, and Kenya; as well as the production delays that occurred with primary suppliers, such as LLIN manufacturers and pharmaceutical wholesalers.

To improve our performance for on-time delivery, the project will use creative solutions to reduce transit lead-time; for example, in the most challenging countries, initiating pre-clearance processes before the goods are ready for shipment. The project will also more effectively monitor our suppliers' performance by implementing a penalty fees mechanism for late delivery. Finally, the project will provide weekly updates to our field offices and missions to notify them of potential delays in the importation process.

The project compiles monthly scorecard results and provides summaries in the semi-annual and annual reports.

Table 1. Performance Monitoring Plan for the Procurement Process, October 1, 2013–September 31, 2014

Operational Area	Indicator	Status (%)
Monthly system scorecard implemented	Monthly scorecard available	Available monthly
Orders shipped and received on time (data from October 2013–March 2014)	% of orders received by countries within a month of agreed-to date with the Mission	73
	Supplier fill rate (contracted quantity on time)	75
Suppliers deliver ordered commodities to satisfy contractual requirements		258/258 = 100
Respond to emergency orders	Percentage of emergency orders responded to during the previous 12 months	16/16=100

## Efficient and Secure Delivery of Procured Commodities

### Freight Forwarding

Shipment execution tasks include freight quote preparation, vendor door pickup, freight booking, shipment tracking, customs clearance, and final recipient delivery. The Freight team—with the Customer Order Management team—updates the country-specific shipping instructions in ORION, which is part of the project's management information system (MIS). To update shipment milestones in ORION, the project continues to use and improve the electronic data interface with the contracted freight forwarders: Logenix, MEBS, and UPS SCS. Shipment milestones provide shipment visibility to MIS website users.

Based on the freight strategy for TO7, shipments are being competed and bids provided by the contracted freight forwarders for all shipments, except when (1) the vendor is expected to provide freight services (applies to LLIN shipments), (2) for shipments from a vendor to a UPS warehouse (UPS will exclusively handle these

shipments), (3) for shipments when USAID/Washington concurs with the project’s recommendation and justification for exclusive use of a freight forwarder to a specific country, and (4) for *emergency* shipments.

During the last year, shipments arriving with missing products or damages were challenging; however, the Freight team responded effectively, worked with all involved parties; and implemented solutions that should ensure complete deliveries, without delays in deliveries. Table 2 shows the freight analysis. Figures are based on the difference between the highest bid received and the lowest bid received. Through continued bidding of shipments, the project saved U.S.\$917,749.62 during FY2014.

Table 2. Savings from Bidding Out Shipments to Vendors, FY2014

Time Period	Total Savings (\$)	Percentage (%) Savings Overall
October–December 2013	311,923.70	18
January–March 2014	129,752.84	28
April–June 2014	427,232.82	28
July–September 2014	48,840.26	23

## Quality Assurance

### Rapid Diagnostic Tests

During the reporting period, the QA team managed pre-shipment inspection and testing for 39 orders of RDTs from Access Bio, Orchid Biomedical Systems, Premier Medical, and Standard Diagnostics. FHI 360 reviewed all test results before clearing an order for shipment.

TO7 contracted with the Foundation for Innovative New Diagnostics (FIND) to support all lot testing of RDTs through the World Health Organization (WHO) laboratories. Lot testing for PMI

included initial testing of 191 batches and 18-month stability of 217 batches; the Malaria RDT Quality Assurance Laboratory at

the Research Institute for Tropical Medicine (Philippines) and the Laboratory of Molecular Epidemiology at the Institut Pasteur du Cambodge (Cambodia) conducted the testing.

Results from the initial pre-shipment testing were available 4-28 days after sampling (average 11 days); all results were compliant with WHO standards. The laboratories typically complete testing within five working days of sample receipt. Sample shipment and customs caused the longest delays. One batch did not pass the 18-month



A doctor takes a blood sample from a child suspected of having malaria for testing with an RDT. The child tested positive and was subsequently treated with Coartem. Mueda health center, Cabo Delgado, Mozambique.

Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT.

stability testing. The remaining tests that could still be located in-country were quarantined and scheduled to be destroyed.

## **LLINs**

From October 2013–September 2014, the QA team managed pre-shipment inspection and testing for 86 orders from A to Z Textile Mills, BASF, Bestnet, Sumitomo, Tana Netting, and Vestergaard Frandsen. Crown Agents performed sampling and inspection of all consignments at the manufacturing sites. FHI 360 reviewed the inspection reports and released the orders for shipment, concurrently with the laboratory testing.

During testing of an order from a manufacturer, the variance of insecticide throughout the LLINs was found to be very high, but the average insecticide level complied with WHO specifications. It was decided to test LLINs from this manufacturer non-concurrently (pre-shipment) for future orders.

A subsequent order from this manufacturer had an out-of-specification result for deltamethrin content, exceeding the upper limit set by WHO Pesticides Evaluation Scheme (WHOPES). This batch (113,750 bed nets) was rejected and the manufacturer replaced it. Samples of the replacement batch were tested and found to be compliant with the WHO specifications. The manufacturer acknowledged the high variance of insecticide level; they are changing the process for coating the bed nets with deltamethrin. Bed nets produced with the new manufacturing process are currently undergoing laboratory efficacy studies equivalent to WHOPES phase 1.

LLINs that matched lot numbers for an order shipped to Nigeria appeared in stores in Niger. FHI 360 visually compared the bags, bed nets, and labels; and tested the weight and chemicals. All visual clues were identical to the samples tested for the Nigeria order; the netting material weight was within specifications; and the chemical test showed a significant amount of deltamethrin, but a lower amount than usual when newly produced bed nets are tested. The conclusion was that the bed nets from Niger are very likely genuine bed nets, which were from the shipment to Nigeria.

During the inspection of an order from another manufacturer, an unusual number of bags were not properly sealed (63 out of 500). After confirming with the mission, it was decided to proceed with the shipment. A later visit to the manufacturer revealed that incomplete perforation of the bags caused the poorly sealed bags. Usually, during the baling process, when the bags are compressed, each bag has a few holes for air to escape. During the visit, the perforation for a number of bags did not go through the entire bag and these bags ruptured during baling.

No other product complaints were reported for orders completed in the reporting period. Complete test results were available within four to 64 days after sampling (average 27 days). The longest delays were around the holidays. FHI 360 created Certificates of Conformance for each consignment after a final review of all results. FHI 360 also tested one batch of K-O tabs, tablets used to retreat bed nets with deltamethrin. Test results were compliant with the WHOPES specifications.

## **Pharmaceuticals**

### **Pharmaceuticals regulated by a stringent regulatory authority**

Pharmaceuticals that an SRA regulates did not require laboratory testing. FHI 360 reviewed the manufacturer's Certificate of Analysis (COA) before shipment.

During this reporting period, FHI 360 reviewed COAs for 533 batches of Coartem and dispersible Coartem from Novartis for more than 80 orders. FHI 360 continued to perform identity testing using near-infrared spectroscopy and reduced (periodic) chemical testing for the amount of active ingredients.

FHI 360 also reviewed the COA for one batch of oral rehydration salts manufactured by KBI Kunststoffbeutel Produktions, two batches of clindamycin by Hexal, one batch of Eurartesim by Sigma-Tau, four batches of atropine injections by Martindale Pharma, and five batches of paracetamol injections by Braun.

### WHO pre-qualified pharmaceuticals

WHO pre-qualified pharmaceuticals were tested concurrently with shipping. During this reporting period, this policy applied to AS/AQ from Sanofi-Aventis, A/L from Cipla and IPCA, and artesunate injectable from Guilin Pharmaceutical.

### AS/AQ

Before releasing the order for shipment, FHI 360 reviewed COAs for every batch of AS/AQ procured from Sanofi-Aventis. The supplier sent samples for every batch. FHI 360 used the manufacturer's test method to do concurrent testing; 134 unique batches were tested, for 35 orders. Test results were available between 5–40 days from sample receipt (average 16 days). All results were compliant with the specifications.

### Generic Artemether/Lumefantrine

FHI 360 managed sampling, inspection, and testing for one order of 83 batches of generic A/L from Cipla and four orders from IPCA. Because this product is WHO pre-qualified, FHI 360 released orders for shipment after completing the sampling, which was done concurrently with laboratory testing. One of the labs had some problems with the test method and was unable to provide results for some of the required tests. With assistance from the procurement team and country team, the project was able to quarantine all product until the various issues were resolved. To avoid any further delays, all remaining tests were divided between North-west University and FHI 360. All test results were compliant and the product was released for distribution. Unfortunately, because testing did not begin until the issues with the first order were resolved, this delay also delayed the next two shipments of the product. KABS tested these two orders, as well as the order from IPCA.

Final test results were available between 32–122 (average 93 days) after sampling. All results were compliant with US Pharmacopeia (USP) Standard for Articles Legally Marketed Outside of the USA (SALMOUS) specifications.

### Other pharmaceuticals

The project also procured other pharmaceuticals, including acetylsalicylic acid, adrenaline, amodiaquine, artemether injections, artesunate suppositories, ceftriaxone, clindamycin, chloroquine, ferrous sulphate, glucose, paracetamol, primaquine, quinine sulfate, quinine injectables, and SP. These products are not WHO-prequalified and were tested pre-shipment by independent laboratories, non-concurrent with shipping. Some wholesalers arranged for testing and shared their test reports. For other wholesalers, Crown Agents performed sampling and inspection and FHI 360 arranged for testing at Vimta Labs, KABS, or North-west University. FHI 360 reviewed all results before releasing the orders for shipment.

A few orders had major delays clearing the samples from customs into India, where one of the labs is located. On one occasion, samples of artesunate injections were lost. Because the order of WHO prequalified product had shipped concurrently, and no samples were kept, 19 batches were delivered without independent laboratory testing. Measures have been taken to prevent this from happening again, including improving our trackers to ensure we know where the samples are; adding more checks and balances to the tracking system; shipping fewer



Coartem malaria treatment drugs dispensed for a child in Mueda, Mozambique, include dosage times written by the pharmacist.

Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT.

orders concurrently; and, if an order is shipped concurrently, the shipment is only released after the laboratory confirms receipt of the samples.

For test results of orders arranged by the project, sampling was available after 10–153 days (average 55 days). One batch of artesunate injections was not compliant for the uniformity of dosage test and it was rejected. Only the compliant batch was shipped for this order; the missing quantity will be added to the next order. All other tested samples were compliant with the applicable specifications and no product complaints were reported.

## Other QA Activities

FHI 360 was closely involved in the process of adding more laboratories to perform testing of pharmaceuticals for the project. After several technical and customs issues with one particular lab, and discussions with representatives from the project and USAID, regular production surveillance testing will be done, alternately, by North-west University and KABS in Canada.

FHI 360 reviewed technical dossiers for A/L from various suppliers, including Ajanta and Strides Arcolab, to support the manufacturer’s selection process for this product.

FHI 360 reviewed technical dossiers of bed net suppliers submitted for EOI no. MAL-13-01. While this review was ongoing, WHO published that they had revoked the interim recommendation for Netprotect from Bestnet. This product was subsequently removed from the list of pre-selected products. Bestnet has provided a complete technical dossier for the production of Duranet, which has a WHOPES recommendation. Samples were tested at FHI 360, with compliant results. Duranet, manufactured by Bestnet, was added to the list of pre-qualified suppliers.

Representatives from the project and FHI 360 visited a manufacturer headquarters in Dubai and the manufacturing sites in Tanzania. No major concerns were found for product quality for any of the suppliers. However, continued monitoring of batches of bed nets produced by this manufacturer is required to determine if the change to the new process allows the product to return to concurrent testing with product shipment. Follow up is required with another manufacturer to obtain further investigation reports—including CAPAs—on the order for Zambia when the bags ruptured during baling. See table 3 for the Performance Management Plan (PMP) indicators.

**Table 3. Performance Monitoring Plan Indicators for the QA Process October 1, 2013–September 31, 2014**

Support Area	Operational Area	Indicator	Status
Quality assurance and quality control	Quality assurance and quality control procedures established and implemented	% of LN shipments with pre-shipment test reports available	100%
		Median time and range (in days from sampling) required for pre-shipment LLIN test reports	27 days Range: 4–64 days
		% of RDT shipments with pre-shipment test reports available	100%
		Median time and range (in days from sampling) for up-to-date RDT test reports	11 days Range: 4–28 days
		% of generic A/L shipments with pre-shipment certificates of conformance	100%
		Median time and range (in days from sampling) required for pre-shipment generic A/L test reports	93 days Range: 32–122 days

Support Area	Operational Area	Indicator	Status
		% of AS/AQ shipments with pre-shipment certificates of conformance	100%
		Median time and range (in days from sample receipt) required for pre-shipment AS/AQ test reports	16 days Range: 5–40 days
		% of other pharmaceutical shipments with pre-shipment certificates of conformance	98%
		Median time and range (in days from sampling) required for pre-shipment test reports for other pharmaceuticals	55 days Range: 10–153 days

## Management Information Systems

The MIS team supported the ongoing operations of Task Order 7 in FY2014 through continual MIS availability and providing up-to-date, accurate, procurement, and shipment information. Day-to-day operations are supported by recording and providing for management review commodity needs by country and recipient program, shipment requests by country and recipient program, financial accounts by country and funding source, and the status of shipments. The MIS is always available to authorized users from the project, the U.S. Government (USG), and partners; both centrally and in the field, via a secure web-based user interface—the USAID | DELIVER PROJECT website.

The MIS is managed according to project management standards as identified by the Project Management Institute (PMI) using a standard System Development Life Cycle. Periodic updates of the MIS ensure customer satisfaction, based on requests from internal and USG sources. The Change Control Board (CCB) direct and prioritize these periodic updates. The CCB process provides for input from USAID and other stakeholders, assesses the impact of individual issues, and prioritizes resource allocation.

MIS reliability, availability, and ease of secure access is measured against a service-level agreement; the project met or exceeded all standards in the reporting year.

## Performance Metrics and Key Statistics

This section includes key statistics on the performance of the MIS. Figure 5 shows the log-ons to the USAID | DELIVER PROJECT website, by month. The project’s website is accessed an average of 576 unique log-on sessions per month (556 in FY2013).

Figure 5. Log-Ons to the USAID | DELIVER PROJECT Website

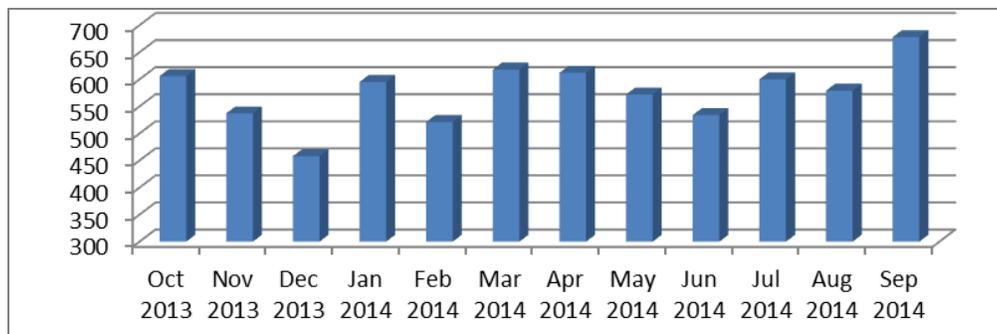


Figure 6 shows the number of times per month that authorized users have accessed the project’s website “My Commodities” web page to view shipment or financial information. The average monthly visits are approximately 4,065 (3,883 FY2013). To provide the most current status, the shipment data is updated three times during each business day.

**Figure 6. My Commodities Visits**

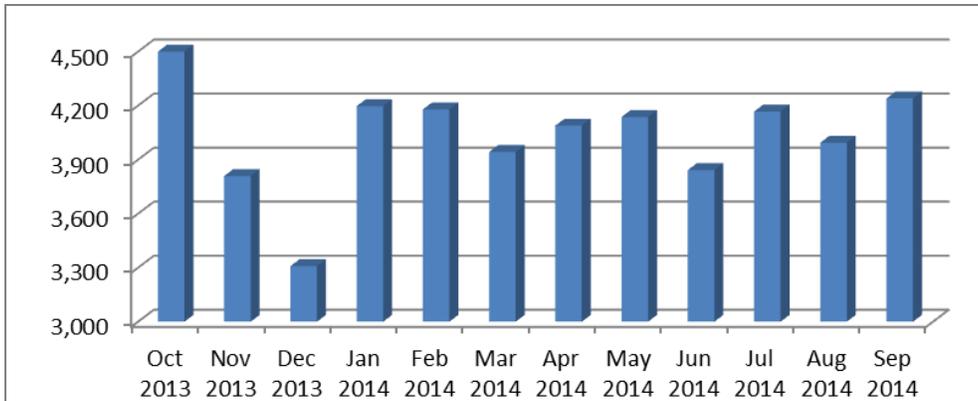
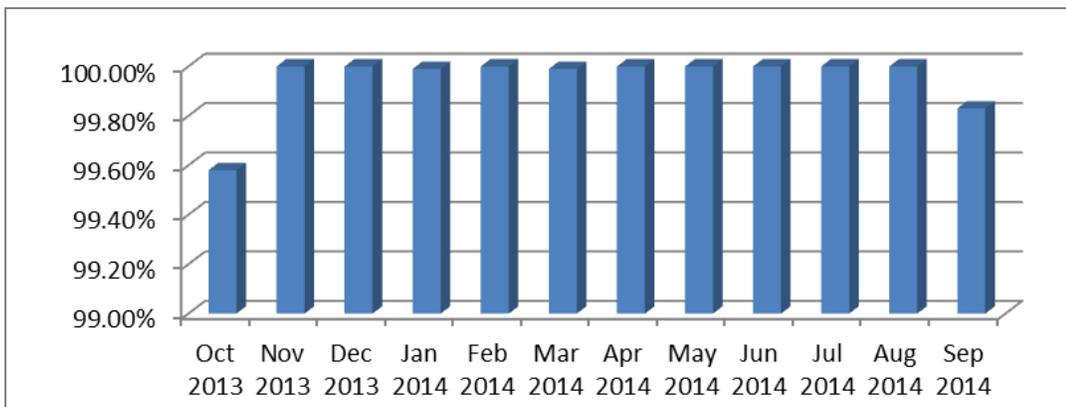


Figure 7 shows the amount of time, per month, that the project’s website is available for access, excluding scheduled maintenance on the weekends. The standard is 99.50 percent availability; it was exceeded each month during the reporting period, with the six-month average of 99.93 percent availability.

**Figure 7. USAID | DELIVER PROJECT Website Availability**



## Maintenance Work Completed

To improve management data availability and operational productivity, the MIS team modified the ORION Enterprise Resource Planning (ERP) system and the project’s website. This ongoing effort is completed, with day-to-day maintenance support of operations, including ad hoc queries, user assistance, anomaly research and resolution, and pre-project definition and estimation. Following are the highlights from the past year’s enhancements.

### Automated Email Notifications (of shipment status changes)

This software, which generates automated email notifications of shipment and order status changes, was implemented; the project is successfully sending email notifications. Recipients/clients do not need to sign up; they are automatically enrolled for this service.

## ORION ERP JAVA Update

After extensive testing, the project implemented a new version of JAVA, which is used primarily by the ORION ERP. This new JAVA release, 7.45, adds considerable security features to prevent unauthorized data access by outside parties. The project continues to stay current with new releases as they become available.

## Financial Reporting System Strengthening

Significant improvements to the financial management systems and reports were implemented, allowing reversals of key transaction. Although the project could always adjust the appropriate accounts in ORION for credits, these enhancements allow credits to be linked to original transactions; it has improved the efficiency of both entry and reporting.

## Upgraded ORION ERP and USAID | DELIVER PROJECT Website Management Reports

To improve the management information in the various formats required, many *My Commodities* reports were updated, based on user requests. ORION ERP reports were also upgraded, as needed, to improve productivity for supporting organizations, such as Procurement and Supply Operations.

The MIS, a key support element for Task Order Malaria, provides management information and detailed reports to aid in procurement; supply chain management; and all other aspects of ensuring the correct commodity in the correct place, at the correct time, at the lowest possible price. See table 4.

Table 4. Performance Monitoring Plan Indicators for the MIS, October 1, 2013–September 31, 2014

Support Area	Operational Area	Indicator	Status
MIS	Availability of USAID   DELIVER PROJECT website	Percentage of time the USAID   DELIVER PROJECT website is available	99.95%
	Total number of visits	Total number of visits to the USAID   DELIVER PROJECT website	48,780
	Number of log-ons	Total number of log-ons to the USAID   DELIVER website	6,910



# Objective 2: Strengthen In-Country Supply Systems and Capacity for Effective Management of Malaria Commodities



Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT.

A nurse at the Mitava health center in Lichinga, Niassa province, Mozambique, records consumption data on ACTs.

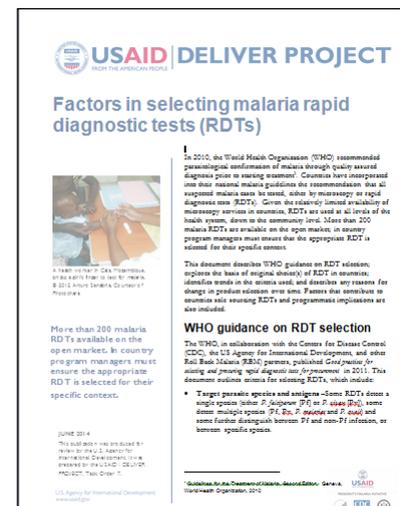
For TO Malaria to succeed and to reach PMI’s goals, it is critical to strengthen the in-country supply systems and build capacity to improve how malaria commodities at the local level are managed. These actions ensure that commodities procured and delivered under Objective 1 activities, and through other key malaria partners, reach those in need. This section focuses on the critical areas of supply chain assistance: (1) improving system performance; (2) improving visibility of data at all levels; (3) strengthening accountability for the products managed; (4) bridging the gap between programs and key supply chain entities, such as the National Malaria Control Program (NMCP) and CMS; and (5) building capacity to sustain performance.

## Improve System Performance to Ensure that Malaria Products Are Available When and Where They Are Needed

### Core-Funded Activities

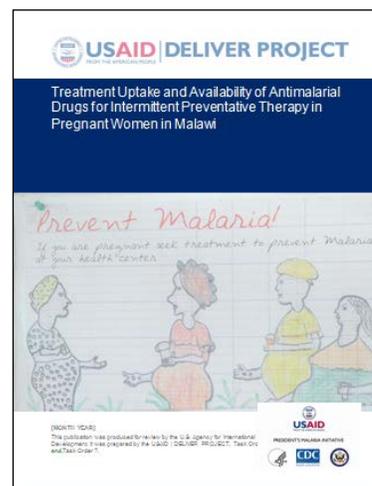
#### RDT Product Selection Analysis

The project published a short paper—*Factors in selecting malaria RDTs*. This deliverable explored how countries selected the original RDT when the RDT was first introduced, and how that choice has or has not been sustained as implementation evolved. Included are the factors that contribute to countries sole sourcing RDTs and the programmatic implications, including shifts to multi-species RDTs. This deliverable was only for internal USAID.



## Malaria in Pregnancy

The project's publication—*Treatment Uptake and Availability of Antimalarial Drugs for Intermittent Preventative Therapy in Pregnant Women in Malawi*—explored the relationship between SP availability and uptake among pregnant women by examining trends between SP logistics data, ANC data, and the Demographic and Health Survey (DHS) and MIS survey data on IPT coverage among pregnant women. The quantitative data, with qualitative, contextual knowledge, support the hypothesis of a correlation between SP availability at the facility level and IPT uptake. Malawi's health services data shows that, despite strong IPT coverage reported in household surveys, trends from one quarter to the next show fluctuations in product availability.



## Implementing the Look Ahead Seasonality Index

In FY2013, the project developed the Look Ahead Seasonality Index, an alternative to calculating resupply, which accounts for seasonality. Using supply chain data, LSIs were developed for Zambia, Zimbabwe, and Burkina Faso in FY2013. Building on these analyses, the project proposed to support one of these countries in implementing, in pilot form, the revised seasonality recommendations. Zimbabwe volunteered.

Significant time was spent preparing for the implementation: an adjustable LSI approach was developed; districts were randomly selected within three categories of malaria transmission; and, within those districts, facilities were chosen for either the control or the treatment group. A monitoring and evaluation plan was developed. However, the project encountered various challenges during implementation, which were outside project control. First, delivery delays were substantial, resulting in missed delivery rounds; followed by a delayed and, generally, unpredictable delivery schedule. As a result, by September, key stakeholders were reticent to introduce anything else new into an already struggling system. Although the project made a case for easily implementing the LSI pilot, the current climate was not receptive to introducing new elements.

While the pilot in Zimbabwe has been temporarily placed on hold, the approach designed for Zimbabwe is one that can be easily adapted for other future piloting efforts. Tanzania has expressed enthusiasm for implementing the LSI approach; the LSIs are developed and implementation should begin in FY2015.

## Supply Chain Considerations for LLIN Delivery Through ANC and Immunization Clinics

After completing national LLIN distribution campaigns, to maintain universal coverage, many countries are beginning to establish and maintain logistics systems for continuous distribution of LLINs. In partnership with NetWorks, the project produced *Supply chain considerations for LLIN delivery through ante-natal and immunization clinics*, which describes supply chain challenges unique to LLINs and to LLIN routine logistics systems; it offers guidance and recommendations for countries that are designing, implementing, or managing routine distribution systems. The recommendations are drawn from the "LLIN continuous distribution through antenatal care and immunization services: a four-country rapid assessment," an activity completed in 2014 and led by NetWorks.



## Supply Chain Costing

Understanding the cost of malaria supply chains is critical to monitoring their cost effectiveness and identifying options to reduce costs, as well as the cost to improve performance. TO4 is undertaking work on return on investments (ROI), exploring cost effectiveness, benchmarking, and cost/benefit analyses for public health supply chains. During this fiscal year, TO7 has collaborated in this workstream by participating in the supply

chain costing working group, providing support for an analysis in Zimbabwe, and analyzing the cost profile of the management and oversight of Malawi's parallel supply chain (PSC).

## Zimbabwe

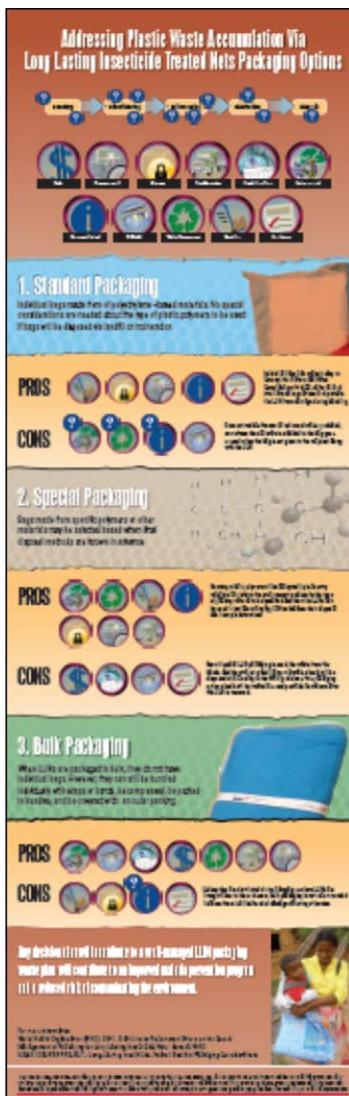
The Zimbabwe Ministry of Health and Child Care (MOHCC) is considering consolidating the management of several sets of health commodities that it currently manages using different systems, including the Zimbabwe Informed Push (ZIP) system that manages malaria products into a single *assisted ordering (AO)* system. To provide input to this decision, the MOHCC is piloting the AO approach in one province.

TO Malaria is working closely with the TO4 costing team to conduct an economic analysis as part of the evaluation of the pilot. The data will be analyzed and the final report developed in the second and third quarters of 2015.

## Malawi

In 2010, the USG requested that the project (TO4 and TO Malaria) manage a PSC for USG-donated commodities, including malaria and reproductive health products. The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) also contracted with the project to manage and deliver GFATM malaria products using the same system. In 2012, TO Public Health was asked to manage essential medicines purchased by DFID. The essential medicine system and GFATM components finished in 2013 and 2014, respectively.

The costs of the PSC, including management, are known and are being analyzed, based on cost efficiency. The analysis focuses on the management level of effort, management cost, and storage and distribution costs associated with the PSC during the 2013 calendar year. The analysis is underway and will be completed in the first quarter of FY2015.



## LLIN infographic

As the malaria prevention community continues to explore the challenge of what to do with LLIN packaging waste, the complexities involved with implementing some of the developed options have become more apparent. Building on the *Long-Lasting Insecticide-Treated Net Packaging Considerations*, published by the project in FY2013, the project created an infographic to show donors and programs a visual representation of the various criteria they should consider when they select the LLIN packaging options during procurement.

## Quarterly technical updates to the field

The project developed quarterly technical updates to project field offices via email, highlighting project news, supply chain recommendations, and updated global recommendations. Field office staff have used the information in the quarterly updates to inform quantification activities and to plan orders placed through the project.

## Country Highlights

### Angola

In Angola, the project continues to follow the PMI mandate to have the RDTs, ACTs, LLINs, and malaria microscopy kits (MMKs) it procures bypass MOH warehousing and distribution components at the central level. Subsequently, the project has been tasked with delivering these commodities directly to the provincial level. To meet this responsibility, the project provides technical assistance and support for receipt, storage, and distribution.

Outside Angola, the project continues to collaborate with its suppliers and freight forwarders to streamline the delivery of commodities. In addition to these activities—as they relate to ACTs, RDTs, and MMKs—the project has continued to refine the processes involved with obtaining permissions from the Angolan Civil Aviation Authority (INAVIC), national airline (TAAG), Angolan airport authority (ENANA), and the Ministry of Finance (Customs) for the arrival of air charters. The project built on prior experiences with obtaining these special permissions and continues to liaise with the office of the Ministry of Health National Directorate of Essential Medicines to create, dispatch, and monitor all inter-ministry correspondences.

In FY2014, the project’s technical assistance included one provincial distribution of RDTs, another provincial distribution of a combination of ACTs and MMKs, and the warehousing and forwarding of LLINs.

## Guinea

Beginning on July 28, 2014, the NMCP, with technical assistance from the project, began distribution planning for antimalarial drugs and commodities that were stored at the *Pharmacie Centrale de Guinée* (PCG). The project contracted with a private transportation company, Translogistique, to transport malarial commodities to health facilities. Several planning meetings were held between in-country partners, including NMCP, PCG, USAID | DELIVER PROJECT, USAID Guinea, Systems for Improved Access to Pharmaceuticals and Services (SIAPS), and Translogistique. These meetings included collecting monthly malaria commodity consumption data and the subsequent development of a distribution plan.



Photo Credit: USAID | DELIVER PROJECT, 2014.

Health district staff distribute malaria commodities to health facilities in Guinea.

By mid-August, five teams—each comprising a Translogistique agent, an M&E supervisor from the MOH, a member of the district prefecture sanitaire (DPS), and the project—distributed the malaria commodities from PCG to health districts. The products were repackaged according to health facility and delivered to the health facility-level.

In total, 175 health facilities in the PMI-managed zones received three months’ supply of antimalarial drugs and commodities—RDTs, multiple presentations of AS/AQ, artesunate injectable 60mg, and gloves—based on the agreed-to distribution plan. Nineteen health district warehouses were also supplied with approximately two months of buffer stock.

Challenges included the initial lack of proper coordination among partners, including the NMCP and PCG, in preparing for the activity. The project facilitated planning meetings with a broad base of stakeholders to develop a distribution plan, including determining quantities of stocks to be distributed and, also, the facilities to be included in the distribution.

## Laos

With the suspected emergence of artemisinin drug resistance in Laos, the country’s malaria control efforts have had greater support from the international community. The USAID | DELIVER PROJECT also increased activities and coordination with donors and stakeholders in-country, and across the region, to better meet the needs of this dynamic environment.

A consultant from the project, embedded within the program, has continued to provide support directly to the National Malaria Control Program (CMPE). The consultant has engaged in a wide variety of activities during the past fiscal year. Significant support has been provided to developing two GFATM concept notes: one for the RAI and the other for the NFM, as well as the country’s National Strategy for Control and Elimination (2015–

2020). The consultant’s continuing efforts to improve the quality of data—deployment of new paper-based logistics management information system (LMIS) reporting forms, support for weekly online reporting and data collection from the provinces, and updating of databases with historical data—has been critical to better understanding the disease and its patterns in Laos. It also provides an evidence base that aids in the response of the international community.

The activities of the project in Laos expanded this year with the emergency distribution of ACTs and RDTs to the most endemic regions. Prior to the distribution, 41 percent of the district antimalarial stations were stocked out of at least one presentation of ACTs and 36 percent were stocked out of RDTs. With the rainy season approaching, the distribution occurred at a critical time, just before many facilities became inaccessible because of rising water. Laos is working to improve the distribution, but it is still largely ad hoc. The project is currently working with partners to establish a more reliable method of distribution.

**Liberia**

The supply chain in Liberia has experienced several challenges for the past few years. To ensure proper management of, and accountability for, the medicines and medical supplies within the supply chain, efforts are being made to address these challenges. In June 2013, USAID informed the Ministry of Health and Social Welfare (MOHSW) that products donated by the agency should not be distributed unless appropriate control measures were put in place. In response, the MOHSW began to implement an Interim Approach (IA), including a system to verify commodities distributed using a modified top up distribution system for counties and facilities; thus improving accountability during requisition and distribution. This approach facilitates

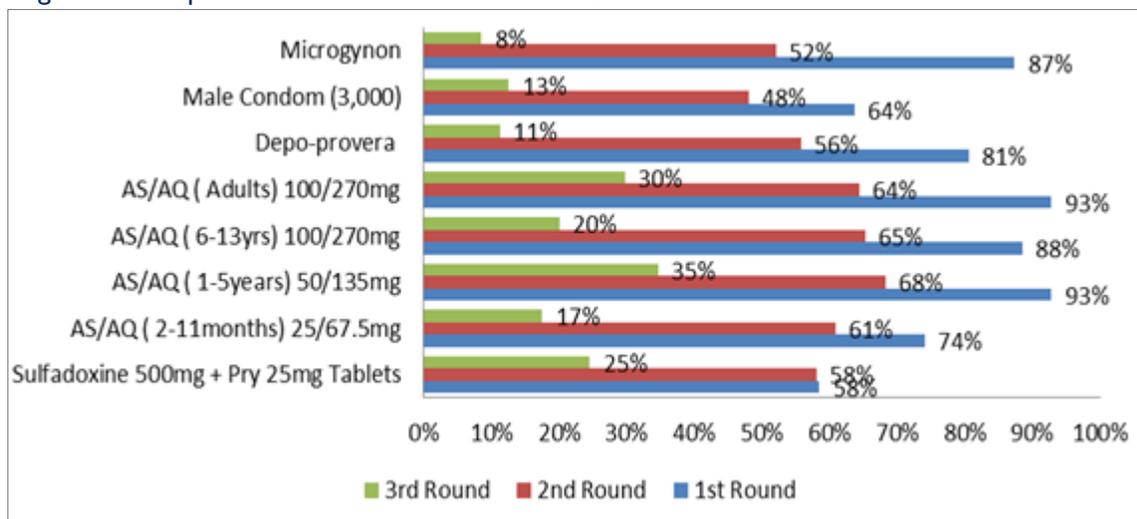


Phot Credit: Yusuf Babaye for USAID | DELIVER PROJECT, 2014.

Reception of commodities at a rural health facility in Liberia.

accountability for health commodities by generating comprehensive logistics data and enhancing commodity availability at facilities. The Supply Chain Management Unit (SCMU) of the MOHSW is coordinating the initiative, with technical assistance from the project.

Figure 8. Comparison of Stockout Rates in USAID Counties



Three quarterly distributions were completed through the IA. After distribution, county data and reports are produced and distributed, county LMIS data are aggregated and analyzed, and a final report on the distributions is produced and disseminated. The reporting out includes the details of the activity, lessons learned, recommendations, and next steps. Stockout rates for tracer products decreased during each round of distribution in the USAID counties, as shown in figure 8. For tracer products, the quantity requested by the depots usually matched the quantities approved/issued, and the quantities received. Delivery coverage was also high—ranging from 97 percent to 99 percent of targeted facilities reached in all rounds. During the most recent round, for the first time they were able to accurately calculate the necessary resupply quantities based off of the consumption data, thanks to improvements achieved in capturing these data at the county- and facility-levels.

Historically, the Ministry of Health’s (MOH) NMCP has provided LLINs to counties and facilities for ANC distribution; but, only sporadically, and without any consistent resupply or procurement guidelines to ensure the availability of bed nets. Typically, the LLINs are the overflow from mass campaign distributions. Technical assistance was provided to support the development of a distribution plan with an implementation timeframe, a comprehensive budget for distribution all the way to the health facility–level, and procedures and recommendations for future continuous distribution of LLINs through ANC. This technical assistance (TA) was provided for the scheduled shipment of 250,000 bed nets to all public and private clinics that provide ANC services, in all Liberia’s 15 counties; it also provided recommendations for future ANC bed net distribution.

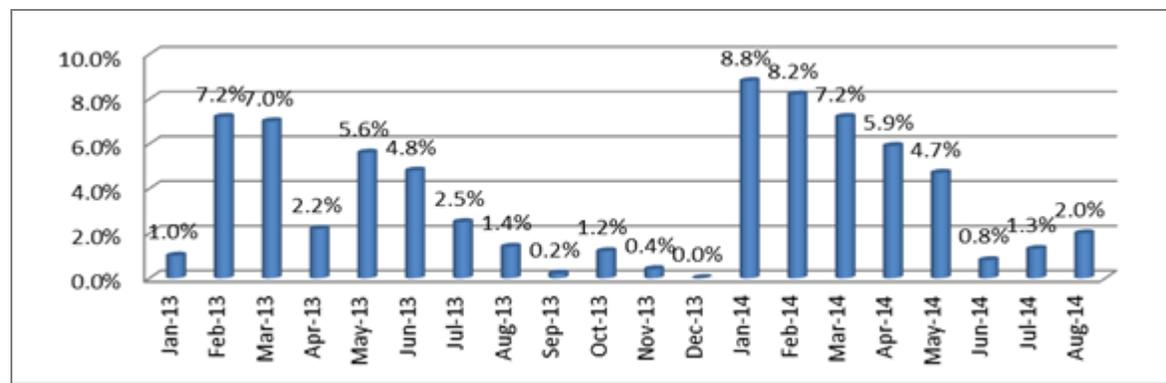
## Malawi

### Availability of artemether/lumefantrine

The country has had consistent availability of stock at the central level during the reporting period, with the months of stock (MOS) ranging from 1.4 to 7.9 for different presentations. Although some facilities had stock imbalances, the overall facility stock status during the period was primarily within the established minimum-maximum levels of 1–3 MOS. The stockout rate for all A/L presentations improved significantly—from 5.9 percent in quarter 3 to 1.4 percent in quarter 4. Although the rate reached a maximum of 8.8 percent in quarter 2, it has remained relatively stable, below 10 percent since January 2013. Figure 9 shows the trend of facility stockout rates for all presentations of A/L from January 2013 to August 2014.

The facility reporting rate for malaria products averaged 85 percent during the reporting period, reaching a maximum of 90 percent in May and July 2014. This performance resulted from proactive data collection efforts by the MOH, with support from the project and other partners. As a result of this improved reporting, more data have been available for use in making better informed commodity distribution decisions.

Figure 9. Facility Stockout Trend of All A/L from January 2013 to August 2014 in Malawi



## **Nigeria**

Reporting rates of state logistics data increased from 18 to 40 percent in FY2014, partly due to the in-depth technical support provided to the National Malaria Elimination Program (NMEP) in the development, testing, training, and roll out of the state data aggregation tool in six states and 96 local government areas (LGAs).

With the procurement of LLINs, the project has also provided TA and support to NMEP to implement core logistics work stream activities, which are carried out during the mass replacement campaigns. The project provided technical assistance and support to NMEP on logistic training to 420 state officers across Kebbi, Nasarawa, Gombe, Jigawa, Kano, Katsina, and Borno states during the micro-plan development and the implementation levels for the mass replacement campaigns. This training offered the states the required planning skills to manage, coordinate, and position LLINs to be redeemed at the distribution points. The capacity enhancement through training also resulted in the successful implementation of the mass replacement campaign in those states. The project also supported the transportation of the LLINs from the state to the LGA level, down to the ward distribution points, where they are distributed to the end user.

## **Rwanda**

The project provided technical assistance to the Logistics Management Office (LMO) of the MOH to transition the current manual logistics system to a functionally aligned computerized electronic LMIS (eLMIS) that will provide health commodity logistics data and basic order processing functionalities. The eLMIS will strengthen health product management by improving supply chain processes and enhancing the ministry's ability to use information from the supply chain pipeline to improve quantification, budgeting, inventory control, storage, and distribution from health to central-level facilities.

The MOH officially launched the eLMIS on March 21, 2014; by July 2014, the eLMIS was live and rolled out in all 609 health facilities in the country. The system is now fully operational and is being used for ordering and receiving commodities from Medical Procurement and Distribution Division (MPPD); managing inventory at health facilities; and, by the end of 2014, it will be used to report the use of commodities to the central level. Currently, 80–90 percent of users have discarded the paper-based system, the order processing cycle time has been reduced from 4 days to 45 minutes, and managers now have stock visibility and real-time consumption data for supply planning.



eLMIS training workshop in Rwanda. USAID | DELIVER PROJECT, 2014.

Photo Credit: USAID | DELIVER PROJECT, 2014.

## **South Sudan**

Following the most recent civil conflict in South Sudan in December 2013, the project has worked with the MOH, state MOH, implementing partners, and the World Food Program (WFP) to address distribution challenges in the middle of a dynamic environment. The project has coordinated closely with these actors to distribute EMF malaria commodities as expeditiously as possible. From coordinating with lead nongovernmental organization (NGOs) on the ground in difficult to reach counties for direct pick-ups, to negotiating an agreement with WFP to tap into its extensive airlift capability to large areas of South Sudan, the project has proactively sought solutions to keep the medicines flowing to those who need it most. Because of deteriorating road conditions during the rainy season, the project airlifted malaria commodities to areas threatened with stockouts.

## Zambia

In **Zambia**, malaria products are managed through the Essential Medicines Logistics Improvement Programme (EMLIP), a pull system in which service delivery points (SDPs) use consumption data to determine their order quantities. EMLIP is currently active in 27 of 72 districts in Zambia; the 45 non-EMLIP districts receive their commodities through a push system in which all SDPs receive health center kits that contain the same predetermined amount of certain commodities, regardless of the rate of consumption in the particular health facility. To-date, 2,412 health facility staff members have been trained in EMLIP. This represents approximately 33 percent of the national coverage.

The project—in close collaboration with the MOH, MCDMCH, National Malaria Control Center (NMCC), and Medical Stores Limited (MSL) staff—provided technical support in reviewing the EMLIP standard operations procedures (SOP) to accommodate the concerns raised by the MOH and stakeholders. The revised system, called *the hybrid*, was then approved for implementation. Project staff co-conducted—with MOH and MCDMCH staff—three orientation meetings for the provincial and district supervisors in the newly revised system. Twenty-six two-day reorientation meetings were held for 306 staff that represented 153 health facilities already under EMLIP, and 13 rollout trainings to 522 new health facility staff trained representing 261 health facilities. After the rollout trainings, the number of expected EMLIP districts increased to 33.

## Zimbabwe

The project staff provided input to the Zimbabwe Assisted Pull System (ZAPS) design, and SOP and training curriculum development. The SOPs outline the processes and procedures—including inventory control system, LMIS, distribution mechanisms, and roles and responsibilities—that are used to implement a pilot for the assisted ordering logistics system. Project staff were also involved in pilot implementation, including training, software upgrades, providing ongoing technical and operational support to MOHCC DPS and NatPharm, as well as pilot monitoring and evaluation. The final pilot evaluation is scheduled for March 2015. See table 5.

The ZIP/Primary Health Care Package (PHCP) teams completed the quarterly deliveries of malaria, tuberculosis (TB), and selected essential medicines and medical supplies to all the provinces in the country. Partners co-supporting the distribution system had delays in beginning and completing the ZIP deliveries because of multiple operational challenges—including a lack of cash flow—that are still a potential threat to malaria commodity security at the health facility-level. PMI, through the project, provides distribution and LMIS support to the ZIP/PHCP system.

The project supported the MOH/NMCP with proper receipt and distribution of LLINs to district holding points. A total of 660,000 LLINs were distributed for subsequent campaign distribution by NMCP and PSI to beneficiaries. The project subcontracted the central storage of 228,000 LLINs for subsequent routine pilot distribution through ANC, Expanded Programme on Immunization (EPI), schools, and village health workers (VHWs) at the community level.

Table 5. ZIP Delivery Coverage, Zimbabwe

Period	Total SDPs	SDPs Visited	Coverage (%)
Jul-Sep 2014	-	-	-
Apr-Jun 2014	1,607	1,592	99.1
Jan-Mar 2014	1,603	1,591	99.3
Oct-Dec 2013	1,615	1,568	97.1

## LLIN Distribution Activities

### Benin

With FY2013 funding, USAID Benin asked the USAID | DELIVER PROJECT to procure 1,420,000 LLINs. Of these, 740,000 were for the NMCP's routine distribution to health zones and facilities throughout the country; they were distributed in February and March 2014. The remaining 680,000 were delivered through a mass campaign for the NMCP in August 2014. The project supported the delivery of the LLINs to all provincial MOH departments, health zones, and health facilities across Benin.



Photo Credit: USAID | DELIVER PROJECT, 2014

Members of the NMCP review and analyze LLIN data in Benin.

### Burundi

In Burundi, the project worked with the NMCP to distribute 662,600 LLINs throughout the country. The most noteworthy feature of the recent distribution was the expansion of the pilot program from 10 districts to 20—the project distributes bed nets to health districts instead of health centers. The health districts then distribute LLINs to health centers. It is an important step toward ensuring the accountability of Burundi's in-country supply chain, because health districts improve how they manage LLINs and other health commodities.

### Ghana

The project in Ghana collaborated with the PMI/NetWorks Project and the NMCP to allocate, transport, and distribute 1,382,400 LLINs from the Central Medical Store to 15,200 basic schools, in all 171 districts, in all 10 regions. During this campaign, based on school enrolment data, school children in primary school years 2 and 6, in every school in Ghana, were given an LLIN. The distribution of the LLINs to basic school pupils was part of the country's LLIN continuous distribution effort to ensure a high ownership and use of LLINs to prevent malaria.

Monitoring visits during the activity provided direct interaction with the beneficiary school children. The school children were able to accurately and clearly relate information on the benefits of sleeping in bed nets and the right way to install them, thus making them good ambassadors for the use of LLINs and as agents of change.

### Madagascar

#### Project improves distribution of LLINs during mass campaign

For the 2013 LLIN distribution campaign, the project helped supervise and participated in strategic working sessions with the National

Coordination Committee (CNC), including contributing to the pre-campaign supervision in November 2013. Two districts were visited; all team members involved in the campaign were trained and operational before the start of the distribution. Additionally, project supervisors helped the sub-recipient NGOs identify and resolve problems and keep the CNC aware of progress in the field in real time. Funded by PMI, the



Photo Credit: USAID | DELIVER PROJECT, 2013.

Distribution of 2,578,300 LLINs in 28 districts in Madagascar.

LLIN campaign distributed 2,578,300 LLINs—which corresponds to 6 regions; 28 districts; about 1,299,435 households and 6,107,347 individuals.

## Mali

Because of security issues in two districts of the Mopti region of Mali, LLINs were not distributed during the FY2013 mass campaign. The project distributed 200,000 LLINs in FY2014 to these regions to ensure full coverage. An additional 1,270,850 LLINs were delivered for a mass campaign in the Kayes region, and 1,343,640 LLINs were delivered in-country for distribution in October, 2014; for a total of 2,814,490 LLINs earmarked for mass campaign distribution.

During FY2014 the project also supported a 12-month operational research (OR) study to explore alternative vector control

options in the face of potential resistance in the pyrethroid insecticide used on bed nets. The OR is comparing two available and approved bed nets—the PermaNet3.0 and Olyset Plus—with their *similar*, but *conventional* (not treated with PBO) bed nets: the PermaNet 2.0® and the Olyset® LLIN. The project procured the required bed nets, and through PSI, supported a door-to-door distribution of 6,000 LLINs to 20 village *units*—approximately 100 households per unit—in Sikasso and Southern Mali regions. These regions were selected based on the recommendation of the operational research protocol developed by the Malian NMCP, in collaboration with Abt Associates. Households were randomly selected to receive one of the four types of LLINs, based on universal coverage; meaning one bed net per two individuals. After the bed net distribution—to estimate vector density, longevity, and infection rates—Abt Associates will test the fabric integrity and mosquitoes bimonthly in each village. Results of the OR will be published during the first quarter of 2015.



LLIN distribution during the mass campaign in Mali.

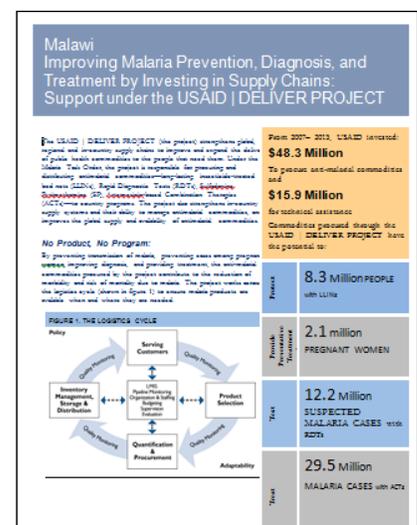
Photo Credit: Eleonore Rabelahasa for USAID | DELIVER PROJECT, 2014.

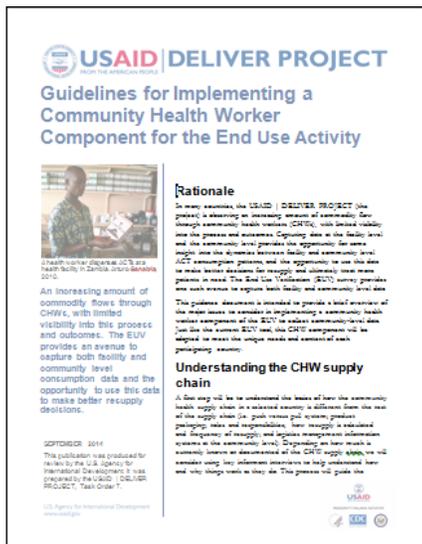
# Improve Visibility at All Levels of the Supply Chain from Central Down to the Facility and Community Health Worker Levels

## Core-Funded Activities

### Country Stories

As the project enters its final year, we began to document the key activities accomplished by TO7 in each country. Country stories were written for Zambia, Burkina Faso, and Malawi. These country stories are data-driven. They look at improvements in the supply chain, such as reductions in stockout rates or improvements in reporting rates; as well as looking at malaria data, such as the annual number of cases at the beginning of the project compared to the end of the project. Data are also drawn from surveys—for example, the DHS and the MIS—to show improvements in key indicators, including LLIN coverage.





**End-Use verification activity: continuing support to countries and conducting quantitative analysis**

The End-Use verification (EUV) activity is a routine monitoring survey implemented by TO7 in the PMI-focus countries that have a project office. The activity gathers valuable information about the functioning of the malaria supply chain and the diagnosis and treatment of malaria during site visits to health facilities, especially those at the lower levels of the supply chain. Site visits are typically done once a quarter by teams comprising staff from the project, the MOH, and other in-country partners. Using a short, graphical report of 10 key indicators, data are analyzed and shared with the USAID Mission, USAID/Washington, the MOH, and other in-country partners. Core funding supports the establishment, country introduction, and monitoring of the EUV; field support covers the routine data collection.

During the reporting period, routine data collection for the EUV continued in Ghana, Malawi, Nigeria, Mozambique, Tanzania, Zambia, and

Zimbabwe. In addition, the activity was initiated in Burkina Faso and Liberia and supported by short-term technical assistance (STTA) visits by TO7 staff from headquarters; two reports were completed in each country during FY2014.

The project also developed an approach for implementing EUV at the community level. Up to this point, EUV had focused exclusively on health facilities, with the exception of Mozambique; where some additional information is being collected, on an exploratory basis, from community health workers about how they manage malaria commodities. This guidance document provides a brief overview of the major issues to consider when implementing a community health worker component of the EUV to collect community-level data. See appendix N for a summary of EUV activities. See appendix O for the commodities collected through the EUV, by country.

TO7 was asked to add child survival commodities to our quarterly survey activities to provide their MCH team with rapid information on their use in several PMI-focus countries. After reviewing the requested commodities, TO7 worked closely with PMI to develop a list of additional child survival commodities to include in the Ghana and Tanzania EUV surveys. The list of additional commodities was adjusted and verified with each country, before being included, to ensure relevance for the two selected sites.

After several more rounds, the team will look at our experiences when these additional commodities are included to determine if it has impacted the EUV. If so, TO7 will see how the expanded commodity list impacted the team composition, time required to collect data, and duration of the data analysis and reporting. These findings will guide investigation of any other countries that may be considered for an expanded EUV.

## End-Use Verification Highlights

### Liberia

In March 2014, as responsibility for the activity was transferred from the SIAPS project to the project at the end of FY2013, EUV was initiated in Liberia. A home office team traveled to Liberia to review and update the guidance and procedures for the activity. The project was responsible for integrating the EUV with data verification activities under Liberia's Interim Approach (IA) supply chain system, developing an improved sampling strategy to serve both data collection activities, finalizing an updated version of the data collection tool that matched the activity in other countries, and incorporating IA indicators into the Magpi questionnaires.

After the first combined round of data collection, teams from the USAID | DELIVER PROJECT and MOHSW successfully navigated complications from the ongoing Ebola outbreak to complete another round.

### Burkina Faso

The project introduced the EUV in Burkina Faso in April 2014; it was the first Francophone country where the project has implemented this activity. A team from the home office traveled to Burkina Faso to adapt the standard EUV tool, already translated into French, to the local context; train project and MOH staff, and provide guidance for data collection and analysis. During a second trip, the home office provided additional technical assistance to create tools for future rounds of training and data collection. Both rounds indicated high availability of antimalarial medications, even in the most remote locations visited. On average, 95 percent of health facilities in the first round and 94 percent in the second round had a stock of antimalarial medications on the day of the visit. However, storage conditions and compliance with standard protocols still need to improve, including the tracking, monitoring, and storing of stock cards for free commodities. Survey teams found more than 70 percent of the 704 expected stock cards in visited facilities during the second round, which represented a 49 percent improvement since the first EUV round. The EUV data, collected quarterly, will continue to be a useful indicator of the strengths and weaknesses in Burkina's service delivery points for malaria commodities.

### Zambia

The EUV in Zambia began in 2009; since that time, PMI has provided additional guidance on the intent to have a nationally representative sample for the EUV activity—a significant change to the current sampling strategy in Zambia. The project provided STTA to assist in re-strategizing the EUV in Zambia, with a focus on enhancing data quality and quick communication of findings. The sampling strategy was revised to make it more nationally representative of Zambia facilities and supply chains; refresher training was provided on the EUV activity and tool, data collection process, data analysis, and reporting. The workshop was a group, participatory process, with staff from the central Lusaka office, all provincial offices, as well as the NMCC.

## Community-Level Analysis

The project analyzed malaria product consumption and availability at the facility- and community-level in Malawi. The Gates-funded Supply Chains for Community Case Management (SC4CCM) has community-level consumption and stock availability data for A/L 6x1 and A/L 6x2; and the project has facility-level consumption and availability data. The analysis showed that community-level consumption is increasing overall; it accounts for a large percentage of cases in the dry season and up to 50 percent of overall pediatric case treatment. In general, community-level stockouts have increased, while stockouts at the facility level have decreased, over time.

## Data Dashboards

In FY2014, the project continued to develop data dashboards for each country, which provided a longitudinal analyses of supply chain data presented in concise, user-friendly; and, largely, graphical data dashboards. This activity was to combine numerous data sources for each country into one country-specific document that would allow for analysis, comparison, or presentation. The dashboards include data from the EUV, the Procurement Planning and Monitoring Report for malaria (PPMRm), LMIS country profiles, and other unique country sources. They are included as part of the semi-annual and annual reports.



## Procurement Planning and Monitoring Report for Malaria

The PPMRm provides quarterly visibility of stock levels for ACTs, SP, and RDTs at the central level of the supply chain. The report covers all central-level stock, regardless of the source of supply: e.g., GFATM, PMI. Data are reported from 20 countries and nine Nigerian states, including from nine countries by project staff, as well as nine countries from staff on the SIAPS project. Two countries report through USAID bilateral projects.



The homepage of the Procurement Planning and Monitoring Report for malaria (PPMRm). 2014.

PMI uses the PPMRm to work with other donors and host-

country governments to address stockout situations in a number of countries by providing critical emergency shipments, and to highlight potential supply problems and address them before large-scale stockouts occur.

In FY2013, the PPMRm was migrated from a Microsoft Access database to an online platform, where users enter data directly into [www.ppmrm.org](http://www.ppmrm.org). Offline data entry is maintained, as well, in case of connectivity challenges from countries. In FY2014, the PPMRm was further upgraded.

Major improvements include—

- historical stock on hand and average monthly consumption graphs
- future MOS graph
- stockout graphs
- ability to build a personal report and export it to Microsoft Excel

- fully developed help menu.

Figures 11 and 12 show central-level stockouts of A/L and AS/AQ, by calendar year, as reported through the PPMRm. When interpreting these data, it is important to note that central-level stockouts do not necessarily mean stockouts at lower levels of the supply chain, where patients are seeking healthcare services and receiving medicines. A country with zero product at the central level may have pushed product out to meet country needs, leading to available stock at regional warehouses and health facilities. For a general snapshot of availability at lower levels of the supply chain, see appendix I (facility stockout rates) and appendix N (individual country data dashboards).

For A/L, the percentage of countries (and Nigerian states) stocked out reached a early high in 2011, with significantly reduced central-level stockouts reported from mid-2012 on. Figures 13 and 14 show the number of countries with more than three MOS at the central level for A/L and AS/AQ, by calendar year, as reported through the PPMRm. For A/L, the figures illustrate a general upward trend, following a low point at the start of 2011. With the exception of a dip during 2012, AS/AQ has also had a general increase, overall, since 2011.

Figure 11. Number of Countries and Nigerian States Reporting Stockouts of A/L Products

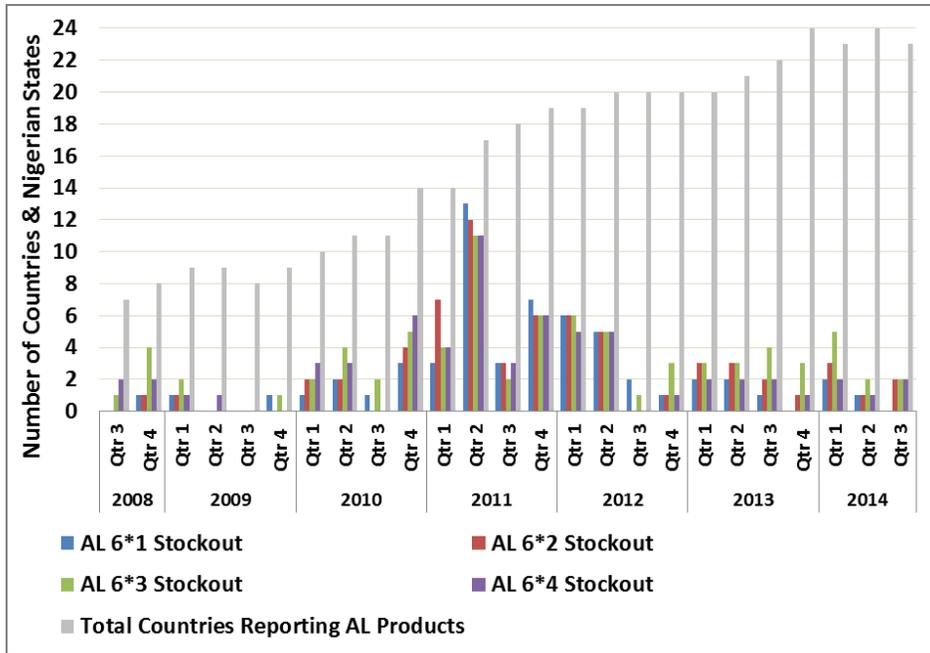


Figure 12. Number of Countries and Nigerian States Reporting Stockouts of AS/AQ

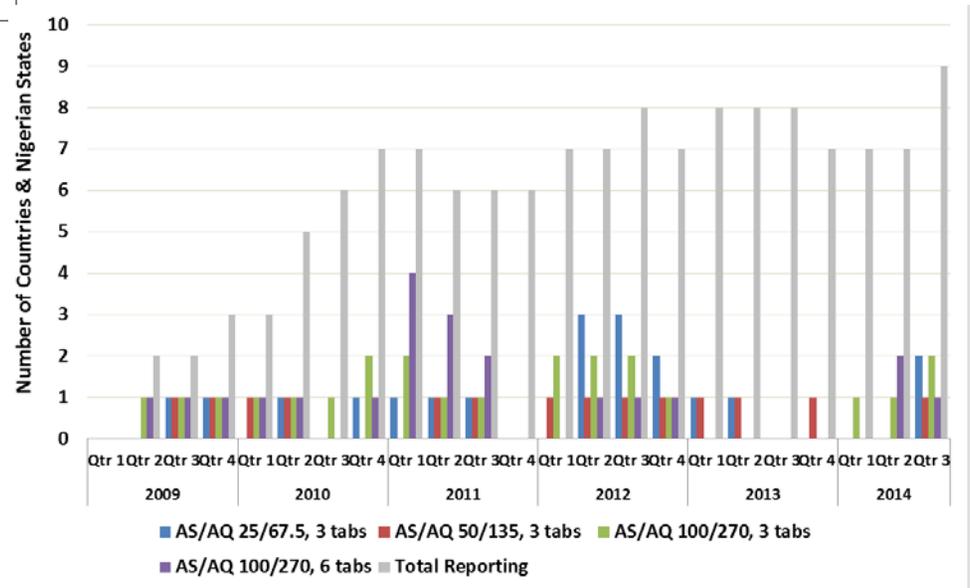


Figure 13. Number of Countries and Nigerian States with More Than Three Months of A/L

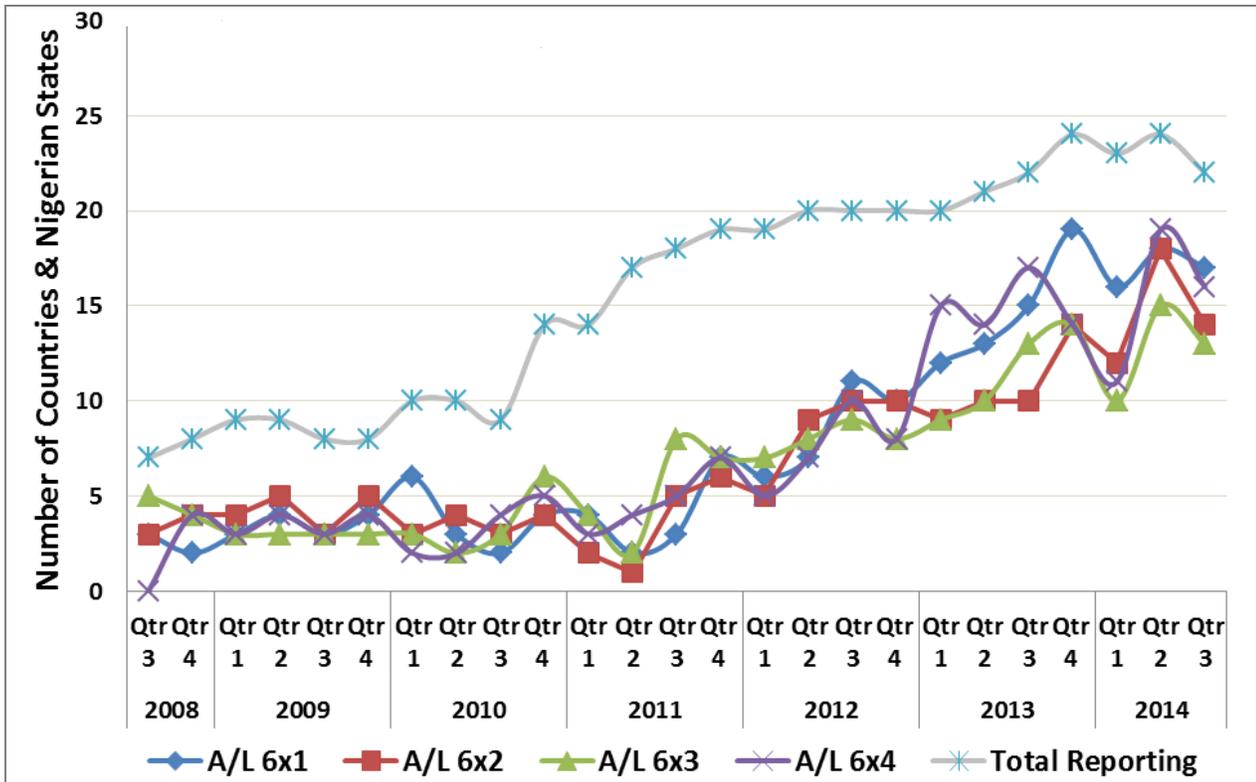
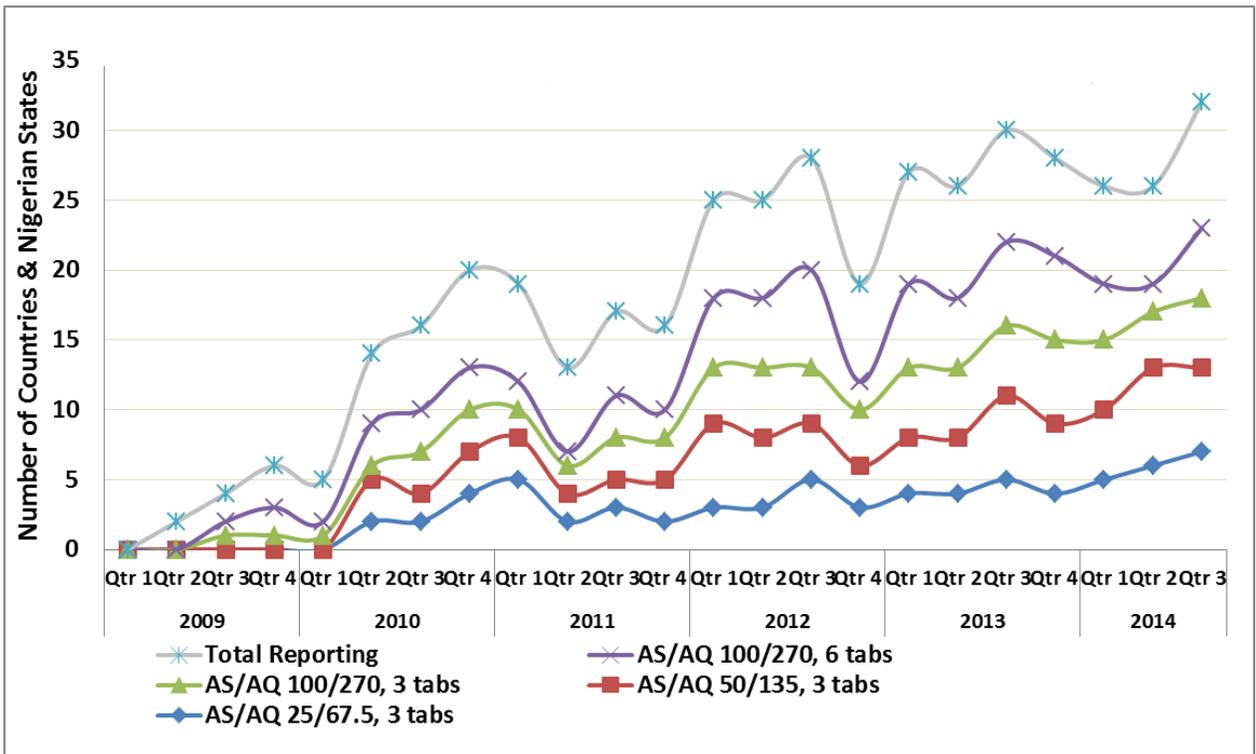


Figure 14. Number of Countries and Nigerian States with More Than Three Months of AS/AQ



# Country Highlights

## Burkina Faso

Since the launch of the malaria database in December 2010, with technical and financial support from USAID | DELIVER PROJECT, the malaria service statistics and logistics data have been compiled at the district level in a unique database; it is sent up to the central level through the Internet, once a quarter. The NMCP and the project staff analyze the data. With this database, the health facility reporting rate on malaria data has greatly improved—from 35 percent in 2010 to 99 percent in June 2013. To improve data quality and commodity availability, the quarterly analysis of the malaria database helps identify priority districts for action.

The NMCP plans to annually review the database to align it with any change in the national policy and indicators. A set of new malaria indicators from the GFATM consolidation process on malaria was added to the database in 2012. The project funded the review of the database and the orientation of the data managers on the revised database.

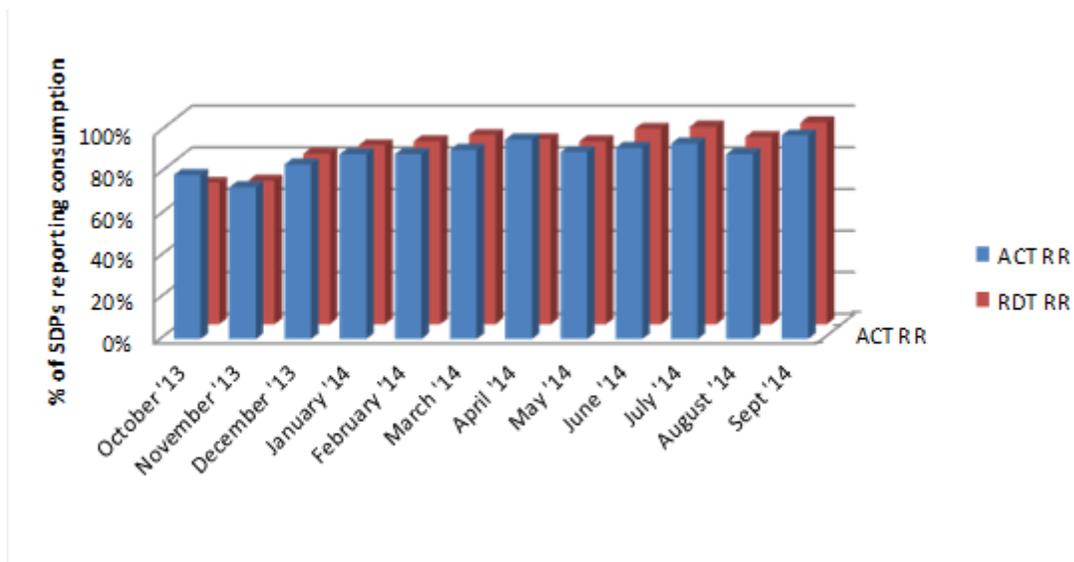
## Democratic Republic of Congo

In November 2013, the project, in collaboration with SIAPS; Supply Chain Management System (SCMS); and the bilateral service delivery project, Integrated Health Project, conducted an LMIS assessment in DRC. The assessment explored existing and planned LMIS in DRC to determine how to best improve visibility into USG-procured commodities in the supply chain. The assessment team recommended USAID investment in the DHIS2, an information system that will soon have a logistics module to roll out in pilot provinces. While the DHIS2 is in its pilot phase, the report recommends that USG implementing partners submit key logistics data in a standard format to the USAID-funded supply chain partners. The data collection should follow actual supply chain channels and report from the lowest possible level. This logistics data collection should mirror national forms and efforts to the degree possible, with an eye toward full integration with the DHIS2, when appropriate.

## Mozambique

District reporting rates for ACTs and RDTs during October 2013 to September 2014 increased by 19 percent (from 79 percent to 98 percent) and 29 percent (from 68 percent to 89 percent), respectively. The districts receive these data in paper form from the health facilities and the community health workers, then aggregate and send in paper form to the province, where they are entered into the System for Management of Medicines and Medical Supplies (SIMAM). Each province's SIMAM database is routinely updated and uploaded to DropBox, then downloaded at the central level for monitoring and analysis.

Figure 15. District Reporting Rates from October 2013–September 2014, Mozambique



CMAM began addressing the data availability challenge by instituting quarterly provincial meetings and regular supervision visits. Participants include provincial- and district-medical officers, staff responsible for warehouses at the provincial- and district-levels, and regional supervisors. The quarterly meetings have helped CMAM promote a culture of reporting by showing participants that the data they send to higher levels will impact the availability of products at SDPs.

In addition to establishing the quarterly meetings, CMAM sends supervision teams to provincial warehouses, selected district warehouses, and several health facilities within each district. Provincial pharmacy managers accompany the teams to help identify gaps, take immediate corrective steps, and collect information to plan long-term preventive actions. Supervision visits focus on stocktaking, SIMAM-LMIS data verification, and report tracking. In addition, the teams conduct on-the-job training, where skill gaps are identified.

As of July 2014, all 11 provinces have participated in quarterly meetings and supervision visits, which led to much higher reporting rates for ACT and RDT consumption data by the end of the fiscal year. With support from the project, CMAM will continue to work with provinces and districts to ensure data accuracy and timely reporting. And, although the impact of these meetings on data availability and timeliness has been most dramatic for ACT- and RDT-related data, it is also leading to improved data for other commodity categories, as well.

## **Nigeria**

To continuously improve the quality of data, the project conducted MCLS training for 3,275 health personnel across eight PMI-focus states. There are currently 11 PMI-focus states; the remaining three states have previously benefited from similar training in FY2013. To address ongoing challenges with obtaining the logistics data used to calculate resupply to SDPs, the project in Nigeria currently uses two distribution systems.

Before the distribution for the last mile distribution system, to obtain data, 30 cycles of bimonthly review meetings were held in advance of distribution; in approximately 1,000 health facilities in six PMI-focus states—Benue, Cross River, Kogi, Nasarawa, Oyo, and Akwa Ibom.

In four other PMI focus states—Bauchi, Ebonyi, Sokoto, and Zamfara—the integrated delivery of malaria commodities and family and reproductive health commodities supplied 1,005 health facilities through the direct delivery and information capture (DDIC) mechanism, in which logistics data from facilities is collected simultaneously during the resupply of health commodities.

## **Tanzania**

In Tanzania, the project works to improve the visibility of key logistics data throughout the supply chain using the eLMIS and the ILSGateway.

### **eLMIS**

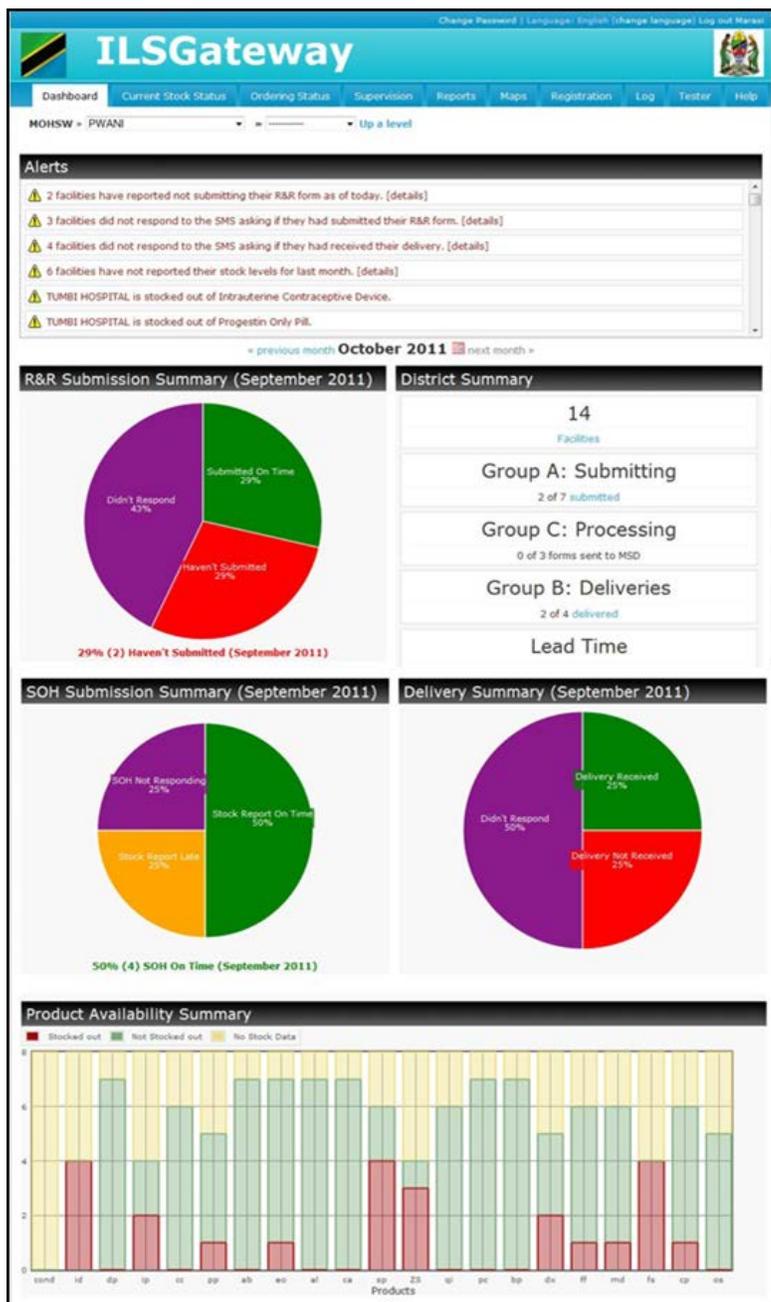
During the past year, Tanzania has implemented the eLMIS, a revolutionary system that ensures greater commodity security and better health outcomes for the people of Tanzania. The Tanzania office used strategic trainings at different levels of the supply chain to roll out the eLMIS system; by September 30, they had trained 97 percent of the district councils. The team also initiated eLMIS trainings with the Medical Stores Department (MSD) officers and health workers at the facility level during the last quarter of FY2014 and will continue these activities through FY2015. Following the initial facility-level trainings in Kinondoni, 28 of 30 facilities successfully submitted their data through the eLMIS by the deadline. In addition, the project trained a cohort of 23 Level 1 support staff on the back-end dynamics of the eLMIS, so they could support the district councils and facilities with basic problems and issues.

### **ILSGateway**

To routinely monitor commodity availability, diagnosis methods, and treatment of malaria at the health facilities, the USAID | DELIVER PROJECT—with the NMCP and MOHSW—employs two complementary data

collection and analysis tools: EUV surveys and ILSGateway mobile data capture. Under the Tanzania Integrated Logistics System (ILS), facility managers use a single system for reporting and managing multiple groups of public health commodities, including malaria testing and treatment products. EUV, a quarterly monitoring survey, collects information from health facilities on malaria commodities and malaria case management. The ILSGateway, a mobile, web-based reporting system, enables facility personnel to use their own mobile phones to send monthly short message service (SMS) messages on stock levels for 20 tracer commodities—including malaria—to a toll-free short code.

Figure 16. Screen capture from the ILSGateway



Together, these systems provide real-time stock status information on selected (tracer) health commodities; improves the timeliness and accuracy of paper-based ordering and reporting from the SDPs; strengthens the accuracy and timeliness of deliveries to SDPs by confirming delivery arrival in real-time; and increases the ability of decisionmakers, at all levels, to monitor facility-level supervision.

Between October 2013 and September 2014, the project completed the rollout of the Integrated Logistics System (ILS) and ILSGateway to all SDPs in Tanzania. A total of 4,613 health facilities and 9,000 healthcare workers, across the nine MSD zones of Tanzania, have been trained and are now using the ILSGateway to report. This new approach to routine monitoring has also significantly decreased the stockout rate of the ACTs—from 40 percent in 2009 to 2 percent in 2014. Finally, the ease of use for both systems has improved health facilities' timely reporting—increasing from 50 percent in 2009 to 88 percent in 2014.

Eventually, data submitted through the ILSGateway will be collected and managed in the eLMIS. After it is fully implemented, the eLMIS will be the primary data collection system for routine logistics information for various malaria commodities, which will help improve the management of these medicines across the countries.

# Strengthen the Accountability of In-Country Supply Chains that Manage Malaria Products

## Country Highlights

### Liberia

The warehouse advisor seconded to the National Drug Store (NDS) has worked with the team to improve storage conditions, update and implement SOPs, and strengthen the transparency and integrity of issues and receipts data. The warehouse advisor and the NDS team have dejunked commodities to remove unusable items and expired drugs, and organized the commodities according to best practices. Products that move through NDS are now accounted for in an organized central system, and stock status of commodities is available to stakeholders.



In Liberia, warehouse advisor seconded to the NDS, Vincent Kabanda, (pictured left) consults with a staff member of the NDS about pharmaceutical storage.

Photo Credit: Yusuf Babaye for the USAID | DELIVER PROJECT, 2014.

### Nigeria

The lack of government warehouses at the national- and state-levels that meet the standards for storage of pharmaceuticals, or have sufficient storage capacity, has led to the project outsourcing storage to pre-qualified third party logistics (3PLs). Sub-contracting with these specialized entities guaranteed transparent and appropriate handling of supplies; it also provided a clear standard of what the government will eventually be required to provide. At the state level, project staff provided technical assistance to state CMS officers in conducting the monthly stock verification exercise, within the PMI-focus state, to determine the stock status and state of malaria commodities in the pipeline; it also provided visibility into the commodity availability for the last mile distribution to supported facilities.

## Strategic Planning and Reviews

### DRC

The project initiated and funded the first Technical and Coordination LMIS working group in DRC, under the leadership of the National Essential Medicine Supply Program (PNAM). The working group meeting provided a significant opportunity for PNAM and the NMCP to share their vision of a future LMIS with all major partners and stakeholders. It also led to the development of the LMIS Roadmap, which will be a guide for implementing a successful LMIS throughout DRC, including in PMI-supported health zones.

### Madagascar

Two home office staff conducted a comprehensive assessment of Madagascar's current supply chain system, in light of the impact of the country's earlier political crisis and recent resumption of the USG and the Government of Madagascar's bilateral cooperation. The assessment involved the National Reproductive Health Program, the NMCP, National AIDS Control Program, SALAMA (Malagasi central medical stores), as well as the NGO and FBO partners and other key stakeholders. The team used the Logistics System Assessment Tool (LSAT) to evaluate the national supply chain's strengths and limitations in 11 major categories. Results, presented to stakeholders in-country, will be a critical component in strengthening the national supply system and integrating different types of supplies into one central pipeline in the future.

## Rwanda

In December, with support from the project, the MOH conducted a workshop for the operationalization of the 5-Year National Pharmaceutical Supply Chain Strategic Plan (NPSC SP). Participants from the MOH, Rwanda Biomedical Center, USAID, Single Project Implementation Unit (SPIU), WHO, SC4CCM, Society for Family Health (SFH), AQUA, Partners in Health, the project, and SCMS identified key interventions and activities, including their respective timelines. An additional strategic objective to incorporate the private sector in the supply chain was recommended. In February, a workshop was held to validate the proposed PMP that will accompany the Operational Plan of the National Pharmaceutical Strategic Plan. The workshop involved MOH officials, including LMO staff and RBC divisions involved in the pharmaceutical supply chain; for example, the malaria division and MPPD. During the workshop, the participants reviewed and discussed key indicators for operationalization and the performance monitoring plan. The PMP, with the M&E framework of the NPSC SP, plans to strengthen the supply chain with a results-framework that assesses if the system is achieving the desired performance targets.

## South Sudan

The project, with the MOH, USAID, and other partners, organized an EMF technical working group. The EMF technical working group (TWG) is a critical forum for bringing partners and stakeholders together to share information about EMF and to ensure visibility into the supply chain process. The project presents updates on incoming shipments into Juba from the manufacturer, distribution activities via truck and air to the counties, and solicits assistance from various parties, as needed, to ensure seamless distribution of EMF commodities to the county health departments (CHD) level.



Photo Credit: USAID | DELIVER PROJECT, 2014.

Difficult road conditions in South Sudan demonstrate supply chain challenges. USAID | DELIVER PROJECT 2014.

## Zimbabwe

The project participated in the NMCP strategic plan review and gap analysis workshop, organized by NMCP; several partners, including WHO, PMI, PSI, UNDP/GFATM, Plan International, National Institute for Health Research (NIHR), and Abt Associates attended. The meeting was planned to review and update the NMCP strategic plan for 2014–2016. At the workshop, participants developed a strategic plan that addresses the main objective areas, including case management, vector control, behavior change communication (BCC), and program management; it will inform the annual work plan activities for NMCP and all malaria stakeholders supporting NMCP for the next three years. The strategic plan was used to inform the GFATM malaria concept note writing.

# Bridge the Gap between NMCPs and Supply Chain Operators to Improve Core Supply Chain Functions

## Country Highlights

### **Cambodia**

Artemisinin drug resistance continues to evolve in Cambodia with new hot spots of suspected and confirmed resistance. The dynamic nature of the resistance calls for flexible funding and support for program implementation and procurement. This year, the USAID | DELIVER PROJECT has had a significant role in filling gaps in procurement for the national program and partners, and continues collaboration to ensure that appropriate commodities are available when and where they are needed.

With less funding from the GFATM, other donors will increasingly be looked to support commodity procurement. The project has seen an increase in the number and variety of procurements for Cambodia this year, transitioning from a primary focus on LLINs and RDTs to ACTs, lab supplies, and even proposed support for data management hardware and software. In the coming years, it is expected that this trend will continue as the country works to compensate for the reduced funding.

### **Nigeria**

As co-chair of the national procurement supply chain management (PSM) sub-committee, the project provided technical assistance to the NMEP in facilitating meetings and institutionalizing the PSM coordination group meetings in nine PMI-focus states. These forums were an opportunity for stakeholders that support different malaria control programs/interventions to provide updates on supply chain issues, identify challenges, and offer solutions to improve the end-users access to malaria commodities. The national committee also developed a tracking tool to monitor procurements and stock status for the RBM partnership stakeholders, which improved the coordination role of the NMEP by improving visibility into supply chain activities of the FMOH and partners. This has mobilized more than one instance of partners forestalling the expiration of ACTs.

In FY2014, the project increasingly provided technical assistance in developing distribution plans and the physical resupply of products procured by PMI, GFATM, and the WB for more than 2,500 health facilities across the country. This improved access to malaria supplies in more Nigerian communities and prevented wastage from expiry, including nearly 1.5 million ACTS procured by WB and GFATM.

The project seconded a full time Procurement and Supply Chain (PSM) advisor to NMEP to provide technical assistance on core supply chain functions and to enhance capacity improvements in the logistics competence of key officers within the PSM branch of NMEP. The PSM advisor also helped develop a malaria commodity consolidation tool for NMEP that collated and increased visibility of malaria commodities that the federal government agencies and Roll Back Malaria partners procured, supplied, and distributed. The advisor also provided technical assistance and guidance to the NMEP on 3PLs long haul and last mile distributions costing.

### **Rwanda**

In December, with support from the project, the MOH conducted a workshop for operationalizing the 5-Year NPSC SP. Participants from the MOH, Rwanda Biomedical Center, USAID, Single Project Implementation Unit (SPIU), WHO, SC4CCM, Society for Family Health (SFH), AQUA RWANDA Ltd., Partners in Health, the project, and SCMS identified key interventions and activities, including their respective timelines. They also recommended an additional strategic objective to incorporate the private sector into the supply chain. In February, a workshop was held to validate the proposed PMP that will accompany the Operational Plan of the National Pharmaceutical Strategic Plan. The workshop involved MOH officials, LMO staff, RBC divisions involved in pharmaceutical supply chain, the malaria division, and MPPD. During the workshop, the participants reviewed and discussed key indicators for operationalization and the PMP. With the M&E framework of the

NPSC SP, the PMP plans to strengthen the supply chain with a results-framework that assesses if the system is achieving the desired performance targets.

## **Quantification Activities**

In almost all project countries, the project supports routine quantifications and quantification updates. Quantifications are a key activity that join the NMCPs and CMS to review available data, make necessary adjustments, agree on assumptions, and develop a forecast and supply plan that keeps the program between maximum and minimum stock levels.

### **Burkina Faso**

The project held a training session on using PipeLine software for the 10 members of the National Malaria Commodity Quantification Committee. Using the software, the project reviewed the 2014 malaria commodities procurement plan with the committee. With project support, the NMCP is now using the software to update the procurement planning. One staff person at the NMCP regularly updates the PipeLine database; the quantification committee can now complete the quantification and procurement planning activities with minimum technical support from the project.

### **Ghana**

Following the project-led 2013 quantification exercise, the NMCP planned and led the annual quantification exercise in August 2014, with technical support from the project. The exercise was successful and had comprehensive stakeholder engagement from PMI, United Nations Children’s Fund (UNICEF), WHO, DFID, NetWorks, ESMI, and MOH; it also included the Ghana Health Service (GHS) staff from the regions. In addition to providing supply plans for the various malaria commodities, the exercise enabled the invited regional staff to upgrade their quantification skills and to appreciate the importance of data reporting and data quality in determining credible forecasts and supply plans. The quantification report and output continues to be the major source documents for procurement planning and review, funding coordination by donors, and other major decisions on malaria commodity security.

### **Liberia**

The MOHSW of Liberia, through the NMCP and SCMU, annually conducts quantifications for malaria medicines and RDTs to meet the need of public-sector facilities in-country. In the past, these quantifications have been solely demographic based, relying more on global estimates instead of local data; the NMCP had increasing pressure to conduct a consumption-based quantification. The project conducted a capacity building workshop on forecasting and supply planning for malaria commodities, which resulted in a costed 24-month supply plan and promoted country ownership. Data-driven services-based, demographic-based, and consumption-based forecasts were completed. PipeLine software was used to develop the supply plan; the NMCP and the SCMU own and manage this database.

### **Zambia**

The project, with the MOH and stakeholders, provided technical and material support to undertake the 2014–2015 Annual National Forecasting and Supply Planning meeting for antimalarial commodities. Prior to this meeting, the project conducted pre-quantification orientation and data review meetings with MOH/NMCC and MSL key staff.

The output from the quantification meeting was used to formulate 12-month supply plans into which the MOH, PMI, and DFID—through the project and other partners—committed funds to procure commodities, as a contribution toward the national requirements. This also helped determine a funding gap for commodity procurement, where identified. The gap analysis has been critical in identifying unmet need and supporting USAID in leveraging MOH’s need to increase funding allocation to provide antimalarial commodities.

## **Zimbabwe**

The MOH, with support from the project and SCMS, conducted the annual national quantification and biannual update. The exercises generated 24-month forecasts and 18-month supply plans for malaria, ART, and PMTCT ARVs, HIV rapid tests, EID bundles, CD4 POC reagents, and TB, as well as other selected essential medicines and medical supplies. The malaria medicines quantified include A/L combinations, AS/AQ combinations, artesunate injections, and suppositories, all in line with the new malaria treatment policy. The supply plans inform procurements funded by the MOH and all partners, including PMI and GFATM.

## **Coordination and Collaboration Groups**

Coordination and collaboration groups, or supply chain TWGs, are another key activity in which both program staff and supply chain staff participate. These groups, a regular forum, joins stakeholders with the explicit purpose of coordination and collaboration in all aspects of supply chain decisionmaking and management. Such a forum is instrumental in effectively managing commodity-related resources across the programs and ensuring product availability. At these forums, information on stock status is shared, status of planned shipments is discussed, quantification results are presented, resources are mobilized, upcoming supply chain activities are highlighted, technical capacity building needs are identified, and solutions for common supply bottlenecks or challenges are developed.

## **Ghana**

The project, with the MOH, facilitated a two-day health sector supply chain stakeholders' meeting. The objectives were to identify and harmonize priority interventions among stakeholders, and to agree on key sector activities for 2014, pending the implementation of the Supply Chain Master Plan. Participants at this meeting included the Procurement and Supply Division; the MOH Stores, Supplies, and Drug Management Division/GHS; Office of the Chief Pharmacist; and the CMS management board. Also present were the public health programs of the GHS, NMCP, National AIDS Control Program, National TB Program, and public health laboratories. The participants identified priority areas of interventions, challenges, proposed actions, roles and responsibilities for each stakeholder, and next steps, which will be shared in a report with the chief director of the MOH.

## **Mozambique**

The Malaria TWG met during the second quarter of the fiscal year to discuss and conclude the following: NMCP will coordinate a national meeting (date to be determined) with all provincial clinical directors, heads of pharmacy, and malaria supervisors. The meeting will be used to analyze the quality and importance of the data being reported. The current data being received still needs to improve. A quantification review of all malaria commodities is scheduled for the first week of April.

## **Zambia**

Project staff held a meeting with the Zambia Integrated Strengthened System Partnership to prepare for a collaborative evaluation exercise, with the goal of understanding the disparity between reported malaria cases and the high uptake of ACT treatments during the second quarter of the fiscal year. The evaluation exercise is scheduled for May, after modalities are finalized, including input from all stakeholders.

During the meeting for the midterm review of the NMCP SP, held in September 2013, the artesunate injection was approved to be included in the standard treatment guidelines as a first line drug for treating complicated malaria. Following this, the Malaria Case Management TWG hosted the malaria case management training manual review meeting on March 24–26, 2014. Project staff worked with members of the TWG to review the training manuals and develop the implementation plan, which is expected to begin in May 2014.

## **Zimbabwe**

The project participated in the vector control and case management subcommittee meetings organized by NMCP and attended by several partners, including WHO, PSI, UN Development Program/GFATM, Plan International, the National Institute of Health Research, and Abt Associates. The vector control subcommittee received updates on some residual resistance of vectors to selected pyrethroids—deltamethrin and lambda-cyhalothrin—used during the indoor residual spraying program and on LLINs. To inform policy changes, as necessary, recommendations included further studies to determine the extent of the resistance. Following extensive consultation, the case management subcommittee recommended that NMCP adopt the latest WHO recommendations for managing malaria cases: artesunate injection followed by oral ACT treatments for severe malaria; AS/AQ as second line for uncomplicated malaria; and artesunate suppositories for pre-referral treatment of complicated malaria in children, at the community level.

# **After Systems Meet Performance Levels, Build Local Capacity to Sustain System Performance**

## **Country Highlights**

### **Ghana**

The project—as part of efforts to build on the human resource (HR) capacity in supply chain management (SCM)—supported in-country partners through pre-service training (PST) training, continuous professional education (CPE), and establishment of an SCM program at a local institution. To facilitate this, the project supported the schools of pharmacy of two universities—Kwame Nkrumah University of Science and Technology and Central University College—that implemented the program and trained 324 and 70 students from the respective institutions in PST for supply chain management of health commodities. The project, with the MOH, and the Nurses and Midwives Council integrated SCM into the curriculum of nurses and midwifery training schools by supporting rollout trainings for tutors of health training schools nationwide. In all, 104 tutors, from 56 pre-service institutions across the country, were trained. The training was to prepare these tutors to teach the SCM course in their respective schools during the next academic year. The project also supported the School of Public Health (SPH), University of Ghana (UG) to organize the first edition of the Overview of Supply Chain Management course, following the signing of a memorandum of understanding (MOU) between the SPH, UG, and the project in September 2014; the former was to become a regional institute for training of logisticians and health providers in Ghana and other Anglophone West African countries.

Lecturers from the SPH, and technical advisors from the Washington and Ghana offices of the project co-facilitated the course. Twelve participants were self sponsored, while the project helped train the other eight participants. As a result of capacity building support provided during this initial course, the SPH can now manage future courses on its own and can sustain the program. The project will continue to provide technical support to institutionalize the course in the SPH and UG.

The project, with the Pharmacy Council, facilitated the integration of SCM and commodity security modules into the 2014 CPE program for pharmacists. This intervention forms part of the effort to improve knowledge of health professionals in SCM and to enable them to understand their role in ensuring commodity security. A total of 894 pharmacists were trained at five centers, covering all 10 regions.

### **Tanzania**

With the MOHSW, the project is supporting the implementation of a logistics management unit (LMU) in Tanzania. This management structure coordinates the logistics management activities of different commodity categories under one unit. The task order has been working with LMU staff to identify supply chain problems, develop solutions for those problems, and implement those interventions.

Since its inception of the LMU in October 2013, TO Malaria, with SCMS, Procurement Services Section (PSS), and MSD, has conducted basic logistics training for 23 participants, who represent the MOHSW newly recruited LMU staff. Other phases of LMU training and orientation include intervention planning, quantification, and supportive supervision. In April and August, the project worked with the MOHSW and MSD to plan and lead the first and second quarterly LMU quarterly technical meetings, which provided platforms for the LMU team to share experiences, best practices, and knowledge; discuss progress; and set performance standards. The project also supported the LMU in developing its first workplan for July 2014–June 2015; in September, the project worked with the LMU to develop a performance monitoring plan, which will be implemented in January 2015.

## Zimbabwe

The project supported the MOHCC in training 27 MOHCC and NatPharm staff—including district pharmacy managers—on the ZIP/PHCP system SOPs. The training will equip staff with the skills required to complete their tasks as ZIP team leaders, including collecting logistics data and determining resupply quantities during deliveries. The training will also ensure adherence to SCMS and project policies and procedures for safe, effective, and efficient use of project vehicles.

**Table 6. Performance Monitoring Plan Indicators for Objective 2, October 1, 2013–September 30, 2014**

Support Area	Operational Area	Indicator	Status
Monitoring in-country supply chain performance	Providing information about in-country supply chain performance	Facility stockout rate: the % of facilities that had a stockout of a product expected to be provided or issued by that site on the day of the visit	See appendix I
		Country stockout rate: the % of countries with a stockout at the central warehouse(s) at the time of reporting	See appendix I
		Functioning LMIS: % of countries where an LMIS routinely collects and reports stock status data (i.e., SOH and consumption data) from all SDPs in-country	<b>9/15 = 60%</b>  See appendix I for a full list of the countries and further explanation about the LMIS.
STTA	Respond to STTA needs as per Mission request to strengthen in-country SCM for antimalarial commodities	Timely response to ad hoc TA needs: % of STTA trips per Mission/PMI Washington ad hoc request conducted on time	<b>Total:</b> 1/1* = 100%  *RDMA travel
Long-term technical assistance	In-country supply chain strengthened or improved	Quantity of antimalarial commodities—LLINs, SP tablets, ACT treatments, RDTs—distributed in-country using funds obligated to the project	Angola: <ul style="list-style-type: none"> <li>• RDTs: 2,030,000</li> <li>• ACTs: 1,539,000</li> <li>• LLINs: 852,300</li> <li>• Lab kits: 60</li> </ul> Benin: 740,000 LLINs Burundi: 662,600 LLINs

Support Area	Operational Area	Indicator	Status
			<p>Burkina Faso: 5,650 LLINs</p> <p>DRC:</p> <ul style="list-style-type: none"> <li>• LLINs: 985,000</li> <li>• SP tablets: N/A</li> <li>• ACT treatments: 8,140,675</li> <li>• RDTs: 11,995,700</li> </ul> <p>Ghana:</p> <ul style="list-style-type: none"> <li>• 1,382,400 LLINs to 171 districts and 15,200 schools in all regions for the 2014 continuous LLIN distribution through schools</li> <li>• 1,003,500 LLINs in health facilities in seven regions for continuous distribution</li> </ul> <p>Guinea:</p> <ul style="list-style-type: none"> <li>• 567,000 units of RDTs</li> <li>• 91,300 doses AS/AQ infant</li> <li>• 216,000 doses of AS/AQ toddler</li> <li>• 167,400 doses of AS/AQ child</li> <li>• 194,400 doses of AS/AQ adult</li> <li>• 10,006 units of artesunate injectable</li> </ul> <p>Kenya: N/A</p> <p>Laos:</p> <ul style="list-style-type: none"> <li>• 76,750 RDTs (June 2014 emergency distribution)</li> <li>• 37,000 ACTs (June 2014 emergency distribution)</li> </ul> <p>Liberia*:</p> <ul style="list-style-type: none"> <li>• 1,281,036 ACTs</li> <li>• 787,644 RDTs</li> <li>• 388,972 SP</li> </ul> <p>*Data only included for USAID-supported counties (Bong, Lofa, Nimba, Margibi, Montserrado) and Grand Bassa for 1 round of distribution</p> <p>Madagascar:</p> <ul style="list-style-type: none"> <li>• ACTs 753,400</li> <li>• RDTs 1,086,960</li> <li>• Gloves 1,148,300 pieces</li> <li>• Safety Boxes 15,851 pieces</li> <li>• LLINs 2,654,955</li> </ul> <p>Mali:</p> <ul style="list-style-type: none"> <li>• 3,495,390 blisters of ACTs</li> <li>• 225,000 blisters of amodiaquine</li> <li>• 2,000,000 LLINs</li> <li>• 3,000,000 RDTs</li> <li>• 400,000 syringes</li> <li>• 900,000 SP</li> </ul> <p>Malawi:</p> <ul style="list-style-type: none"> <li>• 7,026,480 ACTs</li> </ul>

Support Area	Operational Area	Indicator	Status
			<ul style="list-style-type: none"> <li>• 4,476,150 RDTs</li> <li>• 848,000 SP</li> </ul> <p>Mozambique:</p> <ul style="list-style-type: none"> <li>• 1,559,750 ACTs</li> <li>• 3,211,250 RDTs</li> </ul> <p>Nigeria:</p> <ul style="list-style-type: none"> <li>• 4,184,790 RDTs,</li> <li>• 10,637,135 ACTS</li> <li>• 3,547,552 LLINs</li> <li>• 3,064,067 SP</li> </ul> <p>Rwanda:</p> <ul style="list-style-type: none"> <li>• 269,430 ACTs</li> <li>• 500,010 RDTs</li> </ul> <p>RDMA:</p> <ul style="list-style-type: none"> <li>• 110,000 LLINs for Thailand</li> </ul> <p>South Sudan:</p> <ul style="list-style-type: none"> <li>• AS/AQ: 1,858,200</li> <li>• RDTs: 935,325</li> <li>• Severe malaria kits: Various</li> </ul> <p>Tanzania: 50,000 LLINs</p> <p>Uganda: N/A</p> <p>Zambia : N /A</p> <p>Zimbabwe:</p> <ul style="list-style-type: none"> <li>• 1,045,332 ACTs</li> <li>• 1,959,765 RDTs</li> <li>• 620,901 SP</li> <li>• 326,674 quinine tablets</li> <li>• 34,075 quinine ampoules</li> <li>• 660,000 LLINs</li> </ul> <p>(Note: The LMIS does not distinguish between PMI and GFATM product. Also the quantities distributed cannot all be attributed to PMI funds because as the system is co-supported by a number of partners. RDTs include both PAN and Pf. July–Sept 2014 delivery run not done as ZIP deliveries behind schedule.)</p>
		% of countries receiving field support TA funds reporting on supply chain performance via EUV activity	<p><b>9/15 = 60%</b></p> <p>Burkina Faso: yes</p> <p>DRC: no (Activity implemented by SIAPS)</p> <p>Ghana: yes</p> <p>Guinea: no</p> <p>Liberia: yes</p> <p>Madagascar: no</p> <p>Malawi: yes</p> <p>Mozambique: yes</p> <p>Nigeria: yes</p> <p>RDMA: no</p> <p>Rwanda: no</p>

Support Area	Operational Area	Indicator	Status
			South Sudan: no Tanzania: yes Zambia : yes Zimbabwe: yes  For more information, see appendix I.
		Number of individuals trained in the SCM of malaria commodities	<b>TOTAL: 11,937</b> Burkina Faso: 0 DRC: 0 Ghana: 1,049 Guinea: 2 Laos: 13 Liberia: 255 Madagascar: 195 Malawi: 66 Mozambique: 175 Nigeria: 3,297 Rwanda: 831 Tanzania: 3,420 Zambia: 2,412 Zimbabwe: 27
		% of countries with field support TA funds reporting central-level stock levels of select malaria products in quarterly stock monitoring reports (PPMRm)	<b>11/14 = 79%</b> Burkina Faso: yes DRC: yes Ghana: yes Guinea: no Liberia: yes Madagascar: no Malawi: yes Mozambique: yes Nigeria: yes RDMA: yes  Rwanda: no Tanzania: yes Zambia : yes Zimbabwe: yes
		Functioning coordination committee: % of countries that have a logistics coordination mechanism in place, including participation of NMCP and CMS (or their equivalent), with a meeting that takes place at a specifically appointed time (e.g., during a reporting quarter)	<b>TOTAL: 15/16 = 94%</b> Burkina Faso: yes Burma/Myanmar: yes Cambodia: no DRC: yes Ghana: yes Guinea: yes Laos: yes Liberia: yes Madagascar: yes Malawi: yes Mozambique: yes Nigeria: yes

Support Area	Operational Area	Indicator	Status
			Rwanda: yes Tanzania: yes Zambia: yes Zimbabwe: yes
		Available supply plans: % of countries that have developed supply plans for PMI-funded commodities	<b>TOTAL: 12/16 = 75%</b> Burkina Faso: yes Burma/Myanmar: no Cambodia: no DRC: no Ghana: yes Guinea: no Laos: yes Liberia: yes Madagascar: yes Malawi: yes Mozambique: yes Nigeria: yes Rwanda: yes Tanzania: yes Zambia: yes Zimbabwe: yes
		Number of technical reports or tools developed to support malaria supply chain performance	<b>TOTAL: 64</b> Burkina Faso: 7 DRC: 4 Ghana: 5 Guinea: 1 Liberia: 8 Madagascar: 3 Malawi: 10 Mozambique: 2 Nigeria: 6 RDMA: 1 Rwanda: 3 Tanzania: 5 Zambia: 4 Zimbabwe: 3

# Objective 3: Improve the Global Supply of Malaria Commodities

## Strengthen International Collaboration

### Core-Funded Activities

#### Risk Analysis and Management

Several risks may impact the project's ability to supply products in a timely manner and for malaria commodities to reach the end-user. These include quality concerns, the limited number of quality assured manufacturers for some products, global constraints in the availability of raw materials, potential failure of secondary suppliers—including active pharmaceutical ingredient and packaging providers—financial disincentives for investment in low margin products, and enforcement of new regulations or costs. The project completed a risk assessment to identify the major risks; and to rank their severity, occurrence, and detection. Based on the results, the project selected three risk areas—(1) customs and pre-clearance delays, (2) supplier performance, and (3) global demand—and established teams to develop a risk mitigation strategy for each.

#### Support the USAID Supply Chain Management Course on Supply Chain Management

For new USAID professionals, the USAID | DELIVER PROJECT regularly provides introductory training in supply chain management during a week-long course. The existing curriculum provides a general introduction to basic logistics concepts, and touches on aspects of SCM and commodity security particular to malaria commodities. During FY2014, TO Malaria supported the SCM courses by giving malaria presentations, facilitating group work, and answering questions related to malaria. The TO also shared key malaria guidance, such as the *Guidelines for Managing the Malaria Supply Chain*.

#### Support to the Roll Back Malaria Procurement and Supply Management Working Group

TO Malaria is an active member of the Roll Back Malaria Procurement and Supply Chain Management Working Group (RBM PSM WG). The TO7 director previously served as the co-chair for the PSM Bottleneck work stream and is currently serving as the co-chair for the LMIS work stream. During the report period, TO7 participated in the 10th PSM WG meeting in Geneva, October 16–18, 2013. During the meeting, TO Malaria led an LMIS partners' meeting, where participants shared their LMIS tools/software and planned for an LMIS



A health worker on Quirimba Island, Mozambique, examines an infant before deciding whether to test for malaria using rapid diagnostic testing (RDT).

Photo Credit: Arturo Sanabria for USAID | DELIVER PROJECT, 2014.

workshop for sub-Saharan Africa countries. This workshop became the key deliverable for the PSM WG in 2014. In addition, the project presented on extending the supply chain to the community level and the potential role the PSM WG could play in helping partners strengthen this area.

The project participated in the planning and design of an LMIS workshop to be held in May 2014, which included reviewing communication to countries, reviewing and commenting on an LMIS self-assessment tool, and hosting biweekly planning calls.

## **Alliance for Malaria Prevention**

The project participated in the annual Alliance for Malaria Prevention (AMP) meeting, February 17–18, 2014; which brings partners together to listen to and share with other partners their collective efforts related to LLIN distribution. The project's participation in the monthly Vector Control Working Group and Emerging Issues Working Group (EIWG) meetings, and attendance at the AMP annual meeting, was complementary to the core-funded work on LLIN packaging specification elaboration and LLIN continuous distribution. As part of an EIWG breakout session of the AMP meeting, a senior TO technical advisor shared an update on the production of guidelines for the possible packaging options available for LLINs.

The project was invited to present on the DDIC pilot it is implementing in Nigeria. AMP issued an award in recognition of the DDIC's innovative approach.

## **Conduct Analysis of Demand, Supply, and Pricing Issues Affecting the Global Market for Malaria Products**

### **GFATM New Procurement Strategy**

GFATM developed a new procurement strategy that leverages the volume available through its grants. It began the rollout of its strategy with LLINs in FY2013; this year, they are expanding the strategy to include ACT treatments. As part of the rollout, GFATM held a vendors' meeting on March 13 with WHO pre-qualified ACT manufacturers to share information on the process and anticipated volumes. Both PMI and the project participated in the meeting. They also met separately with GFATM on the LLIN procurement.

### **USAID Wholesalers Summit**

TO Malaria participated in the USAID Wholesalers Summit, February 25–26, 2014, with TO4 and SCMS. The project prepared presentations on QA and procurement performance indicators. Key discussion areas included expanding country registration and expanding the number of wholesalers operating in Africa that meet USAID's quality standards.

### **Analysis of Malaria Market**

The Task Order continues to analyze the malaria marketplace and, based on the analysis, adjusts its procurement strategy. Analyses include LLIN vendor production capacity and anticipated demand, trends in commodity pricing, and vendor performance.

Although the market for malaria commodities had many technical breakthroughs during the past five years; it has also been affected by instability and supply shortages, which directly impacted the in-country programs. The project prepared two deliverables on market analysis, building on the work undertaken under objective one—including cost and analysis of the market dynamics; pricing; pricing components and procurement strategies for key malaria commodities, such as ACTs, SP, LLINs; and diagnostics.

These included—

- **SP supply and demand analysis.** The project collected data on global supply and demand, and documented the registration of each presentation of SP in the countries supplied by PMI commodities.
- **LLIN supply and demand analysis.** The project conducted a review of global supply and demand for WHOPEs Phase II recommended LLINs, and considered trends in demand from major procurers and changes in production planning and capacity investment.

**Table 7. Performance Monitoring Plan Indicators for Supporting Global Supply and Availability Initiatives**

<b>Operational Area</b>	<b>Indicators</b>	<b>Status</b>
Support global and regional stakeholders/ forums of SCM technical issues	Number of global and regional malaria initiatives with USAID   DELIVER PROJECT technical participation	4 (PSM WG, AMP meeting, Wholesalers Summit, GFATM ACT procurement meetings)



# Performance Monitoring

TO7 uses a set of indicators outlined in the PMP, and detailed in the QA Surveillance Plan and Environmental Mitigation Monitoring Plan (EMMP), to monitor performance. All indicators calculated for this reporting period are included in the relevant sections throughout this document. See appendices A–K for additional information.

In addition to the PMP indicators, a set of deliverables were agreed-to during the work planning process for the fiscal year, including dates of submission. During the reporting period, the project routinely assessed the status of these deliverables at weekly TO7/USAID meetings, and provided regular updates to PMI/USAID.

Other less formal methods for performance monitoring and management are also in place, such as weekly TO7/USAID meetings and the distribution of an updated Current Actions Table, which outlines the current status of all TO7 procurements. During weekly meetings with USAID personnel and principal project staff, the TO7 team discusses all issues related to upcoming procurements and technical activities and determines the best way to address any problems. The project conducts a country-by-country review of all ongoing procurement actions; their status is updated on the Current Actions Table, which is made available every week to all PMI and project managers.



# Implementation Challenges and Solutions

## Impact of Ebola in Liberia

The significant increase in the number of Ebola cases has had a profound impact on project country operations, in many ways. The project has implemented the IA, a vendor-managed inventory logistics system, in five counties; it has had great success in reducing stockouts of key malaria commodities. With the emergence of Ebola, up to 40 percent of health facilities have closed, because many health workers are not reporting to work. In addition, people that would visit health facilities for malaria treatment are disinclined to go to facilities out of fear of getting Ebola. The closure of health facilities has also impacted consumption of malaria medicines. Nationally, a temporary infection-prevention measure has been adopted to treat malaria presumptively, without conducting an RDT—to limit the exposure to health workers—which has significantly impacted the number of RDTs consumed. MOH staff and other key stakeholders are dedicating significant time in responding to the Ebola crisis, leaving less time to focus on the routine logistics systems and endemic disease control measures. Several activities initially planned for this fiscal year, such as an evaluation of the IA, could not be completed, because in-country stakeholders continue to focus on responding to Ebola. Further, the travel warning to Liberia has impacted the possibility of SITTA providers doing technical work in-country. The recruitment of a senior logistics advisor for the office has not been successful, as it is difficult to attract expatriates to work in Liberia.

## Ebola and Other Implementation Challenges in Guinea

Given the challenges facing malaria prevention and control in Guinea, PMI resources focus on addressing priorities that are directly linked to malaria service delivery, as opposed to supply chain systems strengthening. While PMI and its partners work to improve the governance of the MOH central warehouse, the USAID | DELIVER PROJECT used a temporary transportation mechanism to supply drugs and other malaria commodities directly to districts, down to health facilities. The project's technical assistance from the home office worked closely with the NMCP to create a product distribution list and, with the transporter, to ensure that facilities and vehicles met specifications; they also identified supervision teams to support the distribution. Just as distribution began, the CDC raised the Ebola threat level in Guinea to Level 3, the highest warning level for non-essential travel. WHO called its first emergency meeting in five years to discuss declaring the outbreak a Public Health Emergency of International Concern (PHEIC). This situation ultimately led to TA providers' early departure from the country, leaving the field office team to lead the distribution process to 19 districts warehouses, 159 health centers, and 16 hospitals, in collaboration with NMCP team; and remote technical support from the home office. Infrastructure challenges remain in coordinating in rural areas with weak phone connections, and in organizing the redistribution of commodities where an excess of commodities were given to certain health centers. When distribution activities were beginning, final directives from MOH central warehouse (PCG) leadership prompted the NMCP and the project field office to drastically alter the distribution methodology when picking up the malaria commodities at the PCG central warehouse. This last-minute adjustment included loading trucks by region (five regions), instead of by health district (15 health districts) on the first day, and by creating a mandatory step of repacking at the DPS-level. Because of these last-minute difficulties with the distribution methodology, only 10 percent of the agreed-to quantity of gloves was distributed. Discussions are underway regarding leveraging funds from another donor (UNICEF) to complete the distribution plan.

## Impact of Political Disruptions on Commodity Distributions in South Sudan

TO Malaria, with TO4 and TO5, are implementing the Emergency Medicines Fund—a jointly funded program by USAID, DFID, and Norwegian Aid—to provide essential medicines to the people of South Sudan. This is a massive effort to procure; kit for facility type; and deliver essential medicines, including malaria commodities, to all counties in South Sudan. The first shipment of ACTs arrived in South Sudan in November 2013, with three more quarterly deliveries planned. In December 2013, internal conflict erupted between two ethnic factions, resulting in significant internal displacement of citizens and evacuation of the USAID and project staff. When the conflict began, distribution of the ACTs was halted, after reaching only half the countries. In early 2014, the political situation stabilized and USAID essential staff and project staff returned to South Sudan to resume distribution.



Photo Credit: USAID | DELIVER PROJECT, 2014.

Road conditions in South Sudan.

Products began flowing to seven states, but access was restricted to three conflict states. With support from OFDA, the project began working with the World Food Programme (WFP) to deliver the medicines to the conflict states.. The project also worked closely with NGOs operating in the conflict states to facilitate delivery of medicines to the areas where they operate. Malaria products are moving well through these partnerships. The situation in South Sudan remains tense; the government often imposes curfews. The road system is also poor; we must airlift malaria products to areas that cannot be reached by road. The costs associated with distribution have increased to cover granting with WFP and delivering more products by air.

## Assessing Country-Owned Distribution Systems in Nigeria

In early 2014, PMI/Nigeria asked the project to assist in the scale up of PMI commodity availability by examining existing distribution options to reach a larger number of health facilities each month, rather than only expanding the project's current distribution network. A review of the existing distribution systems for malaria commodities in the country could lead to identifying whether any existing systems could be used or strengthened to support the scale up; or whether it would be necessary to explore and possibly implement other systems to facilitate the ongoing expansion.

After the assessment activity was complete, it became clear that all aspects of logistics data collection and management, as well as transportation systems for the distribution of malaria commodities, are largely donor-supported; from both the federal to the state level and for routine resupply from the state CMSs to health facilities. It was also observed that, where donor support is not available, distribution and monitoring of malaria commodities is irregular and subject to the capacity and commitment of the existing government structures, processes, and resources. During the review, no specific state malaria elimination programme or CMS was identified that provides regular resupply to health facilities without some level of donor support. One state, Akwa Ibom, initially seemed to be in a position to leverage its existing resources to undertake routine distribution of PMI ACTs and RDTs, but they later rescinded this commitment. Subsequently, until the middle of 2015, the project had to supply facilities using its own distribution system.

## **Increasing Visibility into Logistics Data in DRC**

With the March 2014 opening of the DRC field office, the project's impact at the country level has significantly increased. Poor physical and telecommunications infrastructure, and the lack of capacity in post-war DRC, has inhibited logisticians' ability to gain visibility into commodity logistics at the periphery of the health system. The project's 2013 LMIS assessment, conducted jointly with SIAPS and SCMS, indicated that significant efforts are underway at the national level to implement an eLMIS—the DHIS2.0—with an integrated logistics module. While the DHIS2.0 system is already functional, the funds and capacity to roll it out nationally are not fully available.

The project is working closely with both the MOH's health information systems team, as well as PMI implementing partners, to create an interim logistics information system in PMI-supported health zones, which will feed into the DHIS2.0 at the national level. These data should provide the first significant look at commodity consumption and stock levels at the periphery of DRC's health system. The rollout is expect to occur during the next two quarters.

## **Procurement Lead Time Challenges**

Increasing lead times for certain key commodities, such as SP, and rectal and injectable artesunate, pose increasing risk to the project as the final year begins. Both existing and new orders have been affected by these delays, which may cause problems in supply at the facility level in the coming months.

## **Decisionmaking for Final Procurements**

The deadline for final CPIRs for project procurement was July 15, 2014. After CPIRs were submitted, a lead time analysis identified which procurements risked not arriving before the final delivery date of June 30, 2015. Five countries were identified as having significant and unique clearing and delivery challenges that negatively impact lead times. Issues—such as the lengthy clearing process in DRC, the railway levy in Kenya, and the new customs database fee in Ghana—have resulted in delays in commodity arrival during the past year; under the project's contract, they were highlighted as a risk for final deliveries. Each implicated country was contacted to make a final decision about whether they wanted the project to proceed with procurement, which would then be held outside the country until the new mechanism is in a position to import it, or to cancel the entire order.

# Appendix A. Commodities Procured October 1, 2013– September 30, 2014

Country	Item Description	PO Date	Sub Category	Total Quantity	Total Value
Angola	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 150(H) cm), Rectangular, White	6-Feb-14	Long-Lasting Insecticide Treated Net	600000	\$1,782,000.00
Angola	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	4-Sep-14	Coartem	159750	\$67,095.00
Angola	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	4-Sep-14	Coartem	278400	\$423,168.00
Angola	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	4-Sep-14	Coartem	80640	\$101,606.40
Angola	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	4-Sep-14	Coartem	201600	\$169,344.00
Angola	Kit, microscope, malaria [Microscopy Kit Angola 2014], unit	9-Sep-14	Malaria Misc. Commodities	180	\$119,709.00
Angola	Microscope binocular with Objectives W/4, 10, 40, Plan OB, with lamp/mirror/filterholder (CX22) each	9-Sep-14	Malaria Misc. Commodities	2	\$3,022.00
Angola	Case, aluminum, for microscope (CX22)	9-Sep-14	Malaria Misc. Commodities	2	\$570.00
Angola	Bulb, halogen, 6v/20w for microscope (CX22)	9-Sep-14	Malaria Misc. Commodities	2	\$34.00
Angola	Test, Rapid Diagnostic Malaria, Ag P.f/pv Device, [SD Bioline] 25 tests	14-Sep-29	Rapid Diagnostic Test Kit	1300000	\$780,000.00
Angola	Test, Rapid Diagnostic Malaria, Ag P.f/pv Device, [SD Bioline] 25 tests	14-Sep-29	Rapid Diagnostic Test Kit	1500000	\$900,000.00
Benin	Sulfadoxine/Pyrimethamine 500mg/25mg, 50x3 tablets, 150 tablets	13-Oct-21	Malaria Pharmaceuticals	1295700	\$50,273.16
Benin	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Jan-30	Rapid Diagnostic Test Kit	1500000	\$645,000.00
Benin	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	4-Feb-14	Coartem	65760	\$92,064.00
Benin	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	4-Feb-14	Coartem	111600	\$83,700.00
Benin	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	4-Feb-14	Coartem	232200	\$85,914.00
Benin	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	5-Feb-14	Coartem	111150	\$104,481.00
Benin	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	5-Feb-14	Coartem	281280	\$495,052.80
Benin	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	5-Feb-14	Coartem	99360	\$135,129.60
Benin	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	5-Feb-14	Coartem	246240	\$433,382.40
Benin	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	5-Feb-14	Coartem	133920	\$187,488.00
Benin	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-24	Coartem	194880	\$296,217.60
Benin	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-24	Coartem	108480	\$136,684.80
Benin	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-24	Coartem	161550	\$135,702.00
Benin	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-24	Coartem	285750	\$120,015.00
Burkina Faso	Artesunate injectable 60mg, 4 vial/amp	13-Oct-21	Malaria Pharmaceuticals	332000	\$584,320.00
Burkina Faso	Dextrose 10%, with nipplehead, bottle 250ml	13-Oct-21	Malaria Pharmaceuticals	83000	\$29,880.00
Burkina Faso	Dextrose 5% Bottle of 250 ml - Nipplehead, 2 bottles	13-Oct-21	Malaria Pharmaceuticals	166000	\$53,950.00
Burkina Faso	Syringe, 5ml, w/needle, 21Gx1.5	13-Oct-21	Malaria Misc. Commodities	83000	\$4,150.00

Burkina Faso	Infusion Set, filter, 150 cm, inj.site ABS Reg., needle 21Gx 1.5, 20 drops/ml, air inlet	13-Oct-21	Malaria Misc. Commodities	83000	\$18,260.00
Burkina Faso	Examination gloves powder free, latex, medium	13-Oct-21	Malaria Misc. Commodities	83000	\$13,280.00
Burkina Faso	I.v. placement unit 24G +injection port and wings	13-Oct-21	Malaria Misc. Commodities	83000	\$24,070.00
Burkina Faso	Syringe Luer 10ml with bypacked ndl 21G x 1 1/2"	13-Oct-21	Malaria Misc. Commodities	83000	\$13,280.00
Burkina Faso	Paracetamol injectable 0.5 g=500 mg/50ml, 2 Bottles	13-Oct-21	Malaria Misc. Commodities	83000	\$229,080.00
Burkina Faso	Adhesive plaster 5cm x 0.25 m, perforated, roll	13-Oct-21	Malaria Misc. Commodities	83000	\$14,940.00
Burkina Faso	Artesunate 60mg pwd for inj+ 2 solv, 12 vials	13-Oct-21	Malaria Pharmaceuticals	120000	\$211,200.00
Burkina Faso	Adhesive plaster 5cm x 0.25 m, perforated, roll	13-Oct-21	Malaria Misc. Commodities	10000	\$1,800.00
Burkina Faso	I.V. Cannulae 18G, w/port, w/wings, each	13-Oct-21	Malaria Misc. Commodities	10000	\$1,300.00
Burkina Faso	I.v. placement unit 20G +injection port and wings	13-Oct-21	Malaria Misc. Commodities	10000	\$1,300.00
Burkina Faso	Dextrose 10% - Bottle of 500 ml- Nipplehead, bottle	13-Oct-21	Malaria Pharmaceuticals	10000	\$4,300.00
Burkina Faso	Dextrose 5% 500ml btl with nipple (no set)	13-Oct-21	Malaria Misc. Commodities	10000	\$7,900.00
Burkina Faso	Examination gloves powder free, latex, medium	13-Oct-21	Malaria Misc. Commodities	10000	\$1,600.00
Burkina Faso	Infusion Set, filter, 150 cm, inj.site ABS Reg., needle 21Gx 1.5, 20 drops/ml, air inlet, each	13-Oct-21	Malaria Misc. Commodities	10000	\$1,100.00
Burkina Faso	Syringe, 5ml, w/needle, 21Gx1.5	13-Oct-21	Malaria Misc. Commodities	10000	\$500.00
Burkina Faso	Paracetamol injectable 1 g=1000 mg / 100 ml, 2 Bottles	13-Oct-21	Malaria Misc. Commodities	20000	\$32,000.00
Burkina Faso	Syringe Luer 10ml with bypacked ndl 21G x 1 1/2"	13-Oct-21	Malaria Misc. Commodities	10000	\$1,600.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-22	AS/AQ FDC	333000	\$173,160.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	200400	\$178,356.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	213400	\$55,484.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	18900	\$9,828.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	603900	\$211,365.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	213400	\$55,484.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	603900	\$211,365.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	18900	\$9,828.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	200400	\$178,356.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	399600	\$355,644.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	1207800	\$422,730.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	423500	\$110,110.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-26	AS/AQ FDC	369900	\$192,348.00

Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	126000	\$112,140.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	580500	\$203,175.00
Burkina Faso	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	135000	\$70,200.00
Burkina Faso	Test, Rapid Diagnostic Malaria, Ag Pf, Cassette,[SD Bioline] Kit 25 tests	6-Jan-14	Rapid Diagnostic Test Kit	1000000	\$430,000.00
Burkina Faso	Test, Rapid Diagnostic Malaria, Ag Pf, Cassette,[SD Bioline] Kit 25 tests	7-Jan-14	Rapid Diagnostic Test Kit	1000000	\$430,000.00
Burkina Faso	Test, Rapid Diagnostic Malaria, Ag Pf, Cassette,[SD Bioline] Kit 25 tests	14-Feb-27	Rapid Diagnostic Test Kit	1000000	\$430,000.00
Burkina Faso	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-10	Coartem	500400	\$210,168.00
Burkina Faso	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-10	Coartem	210150	\$176,526.00
Burkina Faso	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-10	Coartem	450000	\$337,500.00
Burkina Faso	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-10	Coartem	390150	\$292,612.50
Burkina Faso	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-10	Coartem	750150	\$562,612.50
Burundi	Clindamycine 300 mg	8-Oct-13	Malaria Pharmaceuticals	11017	\$162,831.26
Burundi	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	8-Oct-13	Malaria Pharmaceuticals	130500	\$486,358.00
Burundi	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	6-Nov-13	AS/AQ FDC	625500	\$218,925.00
Burundi	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-11	AS/AQ FDC	62700	\$16,302.00
Burundi	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Nov-11	AS/AQ FDC	313200	\$278,748.00
Burundi	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	13-Dec-16	Long-Lasting Insecticide Treated Net	100000	\$258,000.00
Burundi	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	13-Dec-16	Long-Lasting Insecticide Treated Net	101050	\$257,677.50
Burundi	Test, Rapid Diagnostic Malaria, Ag Pf/PAN, [SD Bioline], Kit 25 tests	9-Jan-14	Rapid Diagnostic Test Kit	200000	\$94,000.00
Burundi	Test, Rapid Diagnostic Malaria, Ag Pf/PAN, [SD Bioline], Kit 25 tests	14-Aug-20	Rapid Diagnostic Test Kit	3000000	\$1,410,000.00
Cambodia	Bed Net, Polyester, Deltamethrin, 100 Denier (180(L) x 190(W) x 170(H) cm), Rectangular, Light Blue	14-Mar-12	Long-Lasting Insecticide Treated Net	60000	\$203,400.00
Cambodia	Malarone 250/100mg, Box of 12 Tablets	14-Jun-26	Malaria Pharmaceuticals	6000	\$19,000.00
Cambodia	Bed Net, Polyester, Deltamethrin, 100 Denier (180(L) x 190(W) x 170(H) cm), Rectangular, Light Blue	14-Sep-12	Long-Lasting Insecticide Treated Net	70000	\$203,400.00
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-11	Malaria Pharmaceuticals	14700	\$9,432.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-11	Malaria Pharmaceuticals	1980	\$742.50
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-16	AS/AQ FDC	64825	\$16,854.50
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Dec-16	AS/AQ FDC	261425	\$232,668.25
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-16	AS/AQ FDC	326400	\$169,728.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-16	AS/AQ FDC	431950	\$151,182.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	20880	\$13,398.00

Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	2700	\$1,012.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	600	\$225.00
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	4020	\$2,579.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	21300	\$13,667.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	2700	\$1,012.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	1200	\$450.00
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	7920	\$5,082.00
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	180	\$67.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	1140	\$731.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	10080	\$742.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	1440	\$1,012.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	2880	\$225.00
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	19800	\$1,012.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	1440	\$450.00
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	8820	\$67.50
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	480	\$9,432.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	2880	\$13,398.00
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	2160	\$2,579.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	15120	\$13,667.50
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	26100	\$5,082.00
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	13-Dec-30	Malaria Pharmaceuticals	2880	\$731.50
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	1459800	\$1,299,222.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	436500	\$152,775.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	819000	\$425,880.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	102300	\$26,598.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	436500	\$152,775.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	819000	\$425,880.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	102300	\$26,598.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	1459800	\$1,299,222.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	102300	\$26,598.00

Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	436500	\$152,775.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	819000	\$425,880.00
Congo, Democratic Republic of	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	8-Jan-14	AS/AQ FDC	1459800	\$1,299,222.00
Congo, Democratic Republic of	Quinine di-HCl 300mg/ml Inj., 2 ml, 100 AMP	14-Apr-10	Malaria Misc. Commodities	700000	\$173,600.00
Congo, Democratic Republic of	Quinine sulphate (tablets) 300mg, bottle of 1,000	14-Apr-16	Malaria Pharmaceuticals	8000000	\$365,920.00
Congo, Democratic Republic of	Test, Rapid Diagnostic Malaria, Ag Pf/PAN, [SD Bioline], Kit 25 tests	14-Jul-28	Rapid Diagnostic Test Kit	8000000	\$3,920,000.00
Congo, Democratic Republic of	Rectal Artesunate suppository 50 mg, pack of 6	14-Aug-28	Malaria Pharmaceuticals	15180	\$6,881.60
Congo, Democratic Republic of	Rectal Artesunate suppository 200 mg, pack of 6	14-Aug-28	Malaria Pharmaceuticals	120300	\$81,002.00
Congo, Democratic Republic of	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	5-Sep-14	Malaria Pharmaceuticals	100000	\$186,000.00
Congo, Democratic Republic of	Syringe, hypodermic, Luer, 2-part, 5 ml + needle 21 G x 1.5" (0.80 x 40 mm), disposable, box of 100	5-Sep-14	Malaria Misc. Commodities	200000	\$5,220.00
Congo, Democratic Republic of	Syringe 5ml, 2-part, luer slip, eccentric luer nozzle, with by-packed needle 21Gx1.5" (0.8 x 38-40mm) with protection cap, sterile, disposable., box of 100	5-Sep-14	Malaria Misc. Commodities	900000	\$53,190.00
Congo, Democratic Republic of	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	5-Sep-14	Malaria Pharmaceuticals	450000	\$792,000.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-26	Long-Lasting Insecticide Treated Net	60000	\$198,000.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-26	Long-Lasting Insecticide Treated Net	120000	\$396,000.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-26	Long-Lasting Insecticide Treated Net	180000	\$594,000.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-26	Long-Lasting Insecticide Treated Net	125000	\$412,500.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	150000	\$403,500.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	180000	\$484,200.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	60000	\$161,400.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	52000	\$139,880.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	88000	\$236,720.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	300000	\$807,000.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	140000	\$376,600.00
Congo, Democratic Republic of	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 150(H) cm), Rectangular, White	14-Sep-29	Long-Lasting Insecticide Treated Net	145000	\$390,050.00
Ghana	Test, Rapid Diagnostic Malaria, HRP2 (pf) [CareStart], Single Kit, 40 kits	13-Oct-16	Rapid Diagnostic Test Kit	3000000	\$1,410,000.00
Ghana	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, Blue	13-Dec-16	Long-Lasting Insecticide Treated Net	670000	\$2,197,600.00
Ghana	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	13-Dec-16	Long-Lasting Insecticide Treated Net	670000	\$2,097,100.00
Ghana	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	434500	\$112,970.00
Ghana	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	4-Apr-14	Coartem	602100	\$222,777.00
Ghana	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	4-Apr-14	Coartem	278100	\$208,575.00

Ghana	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	4-Apr-14	Coartem	256950	\$192,712.50
Ghana	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	7-Apr-14	Coartem	69750	\$58,590.00
Ghana	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	7-Apr-14	Coartem	198720	\$250,387.20
Ghana	Rectal Artesunate suppository 200 mg, pack of 6	14-Apr-25	Malaria Pharmaceuticals	27960	\$17,941.00
Ghana	Rectal Artesunate suppository 50 mg, pack of 6	14-Apr-25	Malaria Pharmaceuticals	21642	\$8,115.75
Ghana	Test, Rapid Diagnostic Malaria, HRP2 (pf) [CareStart], Single Kit, 40 kits	14-May-20	Rapid Diagnostic Test Kit	2700000	\$1,161,000.00
Ghana	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Sep-14	Coartem	1242000	\$459,540.00
Ghana	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Sep-14	Coartem	616050	\$462,037.50
Ghana	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	14-Sep-26	Malaria Pharmaceuticals	450000	\$792,000.00
Guinea	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	1-Oct-13	Rapid Diagnostic Test Kit	520000	\$223,600.00
Guinea	Bed Net, Polyester, Alpha-Cypermethrin, 100 Denier (1250(C) x 250(H) x 65(R) cm), Conical, White	9-Oct-13	Long-Lasting Insecticide Treated Net	100000	\$528,000.00
Guinea	Microscope PrimoStar iLED, w/ Objectives W/10, 20, 40, and 100x (oil), and Battery Supply Unit	9-Oct-13	Malaria Misc. Commodities	18	\$30,833.64
Guinea	Methanol, 1 Liter Bottle	9-Oct-13	Malaria Misc. Commodities	500	\$1,980.00
Guinea	May-Grunwald solution, 1000 ml bottle, Each	9-Oct-13	Malaria Misc. Commodities	300	\$2,364.00
Guinea	Giemsa Stain Solution, 1000 ml bottle, Each	9-Oct-13	Malaria Misc. Commodities	300	\$3,000.00
Guinea	Oil immersion, bottle of 500 ml	9-Oct-13	Malaria Misc. Commodities	500	\$10,105.00
Guinea	Phosphate Buffer Solution, Ph 7, 1000 ml bottle, Each	9-Oct-13	Malaria Misc. Commodities	150	\$900.00
Guinea	Slides for Microscopes, cut edges, frosted-one side, 76.2 x 25.4 x 1-1.2 mm, 20 x Box50	9-Oct-13	Malaria Misc. Commodities	12500	\$2,400.00
Guinea	Dakin Solution, Full Strength; 0.5% Sodium Hypochlorite; 16 oz bottle, Each	9-Oct-13	Malaria Misc. Commodities	1101	\$6,418.83
Guinea	Gloves, Latex; Examination; Powdered; Disposable; Ambidextrous; Non-Sterile; Medium; Case of 1,000 pcs	9-Oct-13	Malaria Misc. Commodities	100000	\$4,522.00
Guinea	Anti-Fog lens cleaning tissues	9-Oct-13	Malaria Misc. Commodities	10000	\$7,000.00
Guinea	Absorbent, Cotton wool, roll, 500 gram, each	9-Oct-13	Malaria Misc. Commodities	5000	\$9,750.00
Guinea	Safety Lancet, CAPIJECT; 1.5 mm width x 1.0 mm depth Blade; one step activation; single-use; automatic blade retraction; Box of 200, Each	9-Oct-13	Malaria Misc. Commodities	1860	\$45,532.80
Guinea	Limonene, 97%, Bottle 500ml, each	9-Oct-13	Malaria Misc. Commodities	1000	\$11,980.00
Guinea	Ethanol, 96%, denatured, bottle of 1000ml, each	9-Oct-13	Malaria Misc. Commodities	2500	\$8,375.00
Guinea	Bed Net, Polyester, Deltamethrin, 100 Denier (180(L) x 190(W) x 170(H) cm), Rectangular, White	13-Dec-23	Long-Lasting Insecticide Treated Net	80000	\$254,400.00
Guinea	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	250200	\$87,570.00
Guinea	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	130500	\$67,860.00
Guinea	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	150000	\$133,500.00
Guinea	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Dec-23	AS/AQ FDC	70400	\$18,304.00

Guinea	Gloves, Latex; Examination; Powdered; Disposable; Ambidextrous; Non-Sterile; Medium; Case of 1,000 pcs	14-Jan-22	Malaria Misc. Commodities	800000	\$229,440.00
Guinea	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Feb-24	Rapid Diagnostic Test Kit	1000000	\$430,000.00
Guinea	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	14-Mar-12	Malaria Pharmaceuticals	70700	\$127,967.00
Guinea	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-30	Coartem	180000	\$75,600.00
Guinea	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-30	Coartem	150240	\$228,364.80
Guinea	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-30	Coartem	90240	\$113,702.40
Guinea	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-30	Coartem	180000	\$151,200.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Nov-26	Coartem	585000	\$245,700.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Nov-26	Coartem	260100	\$218,484.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Nov-26	Coartem	585000	\$216,450.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Nov-26	Coartem	260100	\$195,075.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Nov-26	Coartem	585000	\$216,450.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Nov-26	Coartem	260100	\$195,075.00
Kenya	Bed Net, Polyethylene, Permethrin, 150dn, (190L x 160W x 210H cm), Blue, Rectangular, each	13-Dec-23	Long-Lasting Insecticide Treated Net	1800000	\$6,516,000.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Mar-12	Coartem	260100	\$244,494.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Mar-12	Coartem	585000	\$274,950.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Mar-12	Coartem	150	\$55.50
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Mar-12	Coartem	584850	\$216,394.50
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Mar-12	Coartem	260100	\$195,075.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	7-Apr-14	Coartem	6750	\$3,172.50
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	7-Apr-14	Coartem	18900	\$17,766.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	7-Apr-14	Coartem	17760	\$24,153.60
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	7-Apr-14	Coartem	57600	\$101,376.00
Kenya	Bed Net, Polyester, Deltamethrin, 100 Denier, (190(L) x 160(W) x 170(H) cm), Rectangular, White, Each	6-May-14	Long-Lasting Insecticide Treated Net	7500	\$22,050.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	6-May-14	Coartem	2000010	\$2,033,343.50
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	6-May-14	Coartem	2340000	\$1,872,000.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	9-May-14	Coartem	150240	\$163,761.60
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	9-May-14	Coartem	424800	\$594,720.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	9-May-14	Coartem	450000	\$337,500.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	9-May-14	Coartem	424800	\$594,720.00

Kenya	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	9-May-14	Coartem	150240	\$163,761.60
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	9-May-14	Coartem	475200	\$175,824.00
Kenya	Test, Rapid Diagnostic Malaria, HRP2/pLDH (Pf) [CareStart], Single Kit, 40 tests per kit	14-May-21	Rapid Diagnostic Test Kit	100000	\$67,000.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	7-Aug-14	Coartem	450000	\$337,500.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	7-Aug-14	Coartem	150240	\$163,761.60
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	7-Aug-14	Coartem	475200	\$175,824.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	7-Aug-14	Coartem	424800	\$594,720.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	7-Aug-14	Coartem	475200	\$175,824.00
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	7-Aug-14	Coartem	450000	\$337,500.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	7-Aug-14	Coartem	425760	\$596,064.00
Kenya	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	7-Aug-14	Coartem	150240	\$163,761.60
Laos	Bed Net, Polyester, Deltamethrin, 100 Denier ( 190(L) x 180(W) x 150(H) cm), Blue, Rectangular	14-Feb-19	Long-Lasting Insecticide Treated Net	20000	\$64,400.00
Laos	Test, Rapid Diagnostic Malaria, Ag P.f/pv Device, [SD Bioline] 25 tests	14-May-28	Rapid Diagnostic Test Kit	152075	\$86,682.75
Laos	Test, Rapid Diagnostic Malaria, Ag P.f/pv Device, [SD Bioline] 25 tests	14-May-28	Rapid Diagnostic Test Kit	136625	\$77,876.25
Laos	Test, Rapid Diagnostic Malaria, Ag P.f/pv Device, [SD Bioline] 25 tests	14-Aug-20	Rapid Diagnostic Test Kit	90000	\$51,300.00
Laos	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x150), white, rectangular, piece	14-Sep-12	Long-Lasting Insecticide Treated Net	156100	\$462,056.00
Liberia	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	150300	\$78,156.00
Liberia	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	181800	\$161,802.00
Liberia	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	189200	\$49,192.00
Liberia	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	91800	\$32,130.00
Liberia	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-11	AS/AQ FDC	158400	\$55,440.00
Liberia	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Nov-11	AS/AQ FDC	218400	\$194,376.00
Liberia	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-11	AS/AQ FDC	111100	\$28,886.00
Liberia	Bed Net, Polyester, Deltamethrin, 100 dn, (1250 x 65 x 250 cm), White, Conical, Each	13-Dec-16	Long-Lasting Insecticide Treated Net	25000	\$120,000.00
Liberia	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 150(H) cm), Rectangular, White	13-Dec-16	Long-Lasting Insecticide Treated Net	100000	\$297,000.00
Liberia	Artemether 80mg/ml, 1ml inj. Pack of 6	6-Jun-14	Malaria Pharmaceuticals	60000	\$15,200.00
Liberia	Artemether 20mg/ml, 1ml inj., Pack of 30 ampoules	8-Jul-14	Malaria Pharmaceuticals	50010	\$15,336.40
Liberia	Quinine sulphate (tablets) 200mg	8-Jul-14	Malaria Pharmaceuticals	800000	\$33,440.00
Liberia	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 150(H) cm), Rectangular, White	9-Jul-14	Long-Lasting Insecticide Treated Net	100000	\$297,000.00
Liberia	Bed Net, Polyester, Deltamethrin, 100 dn, (1250 x 65 x 250 cm), White, Conical, Each	9-Jul-14	Long-Lasting Insecticide Treated Net	25000	\$120,000.00

Madagascar	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	36900	\$19,188.00
Madagascar	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	60000	\$53,400.00
Madagascar	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	258500	\$67,210.00
Madagascar	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Nov-13	AS/AQ FDC	423900	\$148,365.00
Madagascar	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Nov-18	AS/AQ FDC	101700	\$35,595.00
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	6-Feb-14	Long-Lasting Insecticide Treated Net	724850	\$2,268,780.50
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, Blue	6-Feb-14	Long-Lasting Insecticide Treated Net	724600	\$2,376,688.00
Madagascar	Rapid Diagnostic Malaria HRP2/pLDH Combo Test, 25 kits	14-Mar-19	Rapid Diagnostic Test Kit	2780000	\$945,200.00
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Mar-19	Long-Lasting Insecticide Treated Net	150000	\$510,000.00
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, Blue	14-Mar-19	Long-Lasting Insecticide Treated Net	50000	\$178,500.00
Madagascar	Safety boxes, Hexagonal, 5 liter, for disposal of used sharps, each	8-Apr-14	Malaria Misc. Commodities	37900	\$20,466.00
Madagascar	Gloves, examination, Latex, Powder-free, Medium	7-May-14	Malaria Misc. Commodities	55600	\$172,360.00
Madagascar	Sulfadoxine/Pyrimethamine 500mg/25mg, 50x3 tablets, 150 tablets	14-Jun-26	Malaria Pharmaceuticals	450000	\$30,300.00
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-12	Long-Lasting Insecticide Treated Net	700000	\$2,156,000.00
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-12	Long-Lasting Insecticide Treated Net	700000	\$2,156,000.00
Madagascar	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Sep-12	Long-Lasting Insecticide Treated Net	700000	\$2,156,000.00
Madagascar	Sulfadoxine/Pyrimethamine 500mg/25mg, 50x3 tablets, 150 tablets	14-Sep-15	Malaria Pharmaceuticals	1800000	\$100,800.00
Malawi	Bed Net, Polyester, Alpha-Cypermethrin, 100dn, (190(L) x 180(W) x 150(H) cm), Rectangular, Green, each	14-Apr-25	Long-Lasting Insecticide Treated Net	450000	\$1,471,500.00
Malawi	Bed Net, Polyester, Alpha-Cypermethrin, 100dn, (190(L) x 180(W) x 150(H) cm), Rectangular, Green, each	14-Apr-25	Long-Lasting Insecticide Treated Net	450000	\$1,471,500.00
Malawi	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Aug-28	Coartem	335520	\$590,515.20
Malawi	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Aug-28	Coartem	109440	\$148,838.40
Malawi	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Aug-28	Coartem	258750	\$243,225.00
Malawi	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Aug-28	Coartem	485550	\$228,208.50
Malawi	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Aug-28	Coartem	109440	\$148,838.40
Malawi	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Aug-28	Coartem	258750	\$243,225.00
Malawi	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Aug-28	Coartem	485550	\$228,208.50
Malawi	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Aug-28	Coartem	335520	\$590,515.20
Mali	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 1000 tablets	14-Jan-15	Malaria Pharmaceuticals	540000	\$154,170.00
Mali	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Jan-23	Coartem	300000	\$378,000.00
Mali	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Jan-23	Coartem	300000	\$456,000.00

Mali	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Jan-23	Coartem	450000	\$378,000.00
Mali	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Jan-23	Coartem	450000	\$189,000.00
Mali	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	6-Feb-14	Long-Lasting Insecticide Treated Net	500000	\$1,625,000.00
Mali	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	6-Feb-14	Long-Lasting Insecticide Treated Net	500000	\$1,625,000.00
Mali	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Mar-13	Long-Lasting Insecticide Treated Net	500000	\$1,615,000.00
Mali	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	14-Mar-13	Long-Lasting Insecticide Treated Net	500000	\$1,615,000.00
Mali	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Apr-10	Coartem	1800	\$666.00
Mali	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Apr-10	Coartem	4500	\$3,375.00
Mali	Water container, 20 liters, plastic with lid, cap, handle and tap	14-Apr-14	Malaria Misc. Commodities	400	\$2,300.00
Mali	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Apr-24	Rapid Diagnostic Test Kit	1600000	\$688,000.00
Mali	Test, Rapid Diagnostic Malaria, Ag Pf/PAN, [SD Bioline], Kit 25 tests	14-Apr-24	Rapid Diagnostic Test Kit	400000	\$236,000.00
Mali	Syringe, 10 ml, with needle, 21G x 1.5 inch, Luer Lok, pack of 100	14-May-14	Malaria Misc. Commodities	200000	\$8,040.00
Mali	Syringe, 5 ml, with needle, 21G x 1.5 inch, Luer Lok, pack of 100	14-May-14	Malaria Misc. Commodities	200000	\$5,760.00
Mali	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	14-May-30	Malaria Pharmaceuticals	400000	\$704,000.00
Mali	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	14-Sep-15	Malaria Pharmaceuticals	400000	\$740,000.00
Mali	Syringe, hypodermic, Luer, 2-part, 10 ml + needle 21 G x 1.5" (0.80 x 40 mm), disposable, box of 100	14-Sep-15	Malaria Misc. Commodities	200000	\$10,000.00
Mali	Syringe, hypodermic, Luer, 2-part, 5 ml + needle 21 G x 1.5" (0.80 x 40 mm), disposable, box of 100	14-Sep-15	Malaria Misc. Commodities	200000	\$5,200.00
Mozambique	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Blisters, 25 x 3 tablets	9-Oct-13	Malaria Pharmaceuticals	3375000	\$197,100.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	6-Nov-13	Coartem	699300	\$328,671.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	6-Nov-13	Coartem	302400	\$284,256.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	6-Nov-13	Coartem	477120	\$839,731.20
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	6-Nov-13	Coartem	283200	\$385,152.00
Mozambique	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	13-Dec-16	Rapid Diagnostic Test Kit	5700000	\$1,362,300.00
Mozambique	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	13-Dec-18	Rapid Diagnostic Test Kit	3000000	\$717,000.00
Mozambique	Bed Net, Polyester, Deltamethrin, 100 dn, (160 x 180 x 210 cm), Light Blue, Rectangular, piece	13-Dec-23	Long-Lasting Insecticide Treated Net	97225	\$351,954.50
Mozambique	Bed Net, Polyester, Deltamethrin, 100 dn, (160 x 180 x 210 cm), Light Blue, Rectangular, piece	13-Dec-23	Long-Lasting Insecticide Treated Net	222500	\$805,450.00
Mozambique	Bed Net, Polyester, Deltamethrin, 100 dn, (160 x 180 x 210 cm), Light Blue, Rectangular, piece	13-Dec-23	Long-Lasting Insecticide Treated Net	213750	\$773,775.00
Mozambique	Bed Net, Polyester, Deltamethrin, 100 dn, (160 x 180 x 210 cm), Light Blue, Rectangular, piece	13-Dec-23	Long-Lasting Insecticide Treated Net	77625	\$281,002.50
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	13-Dec-30	Coartem	120000	\$151,200.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Dec-30	Coartem	850500	\$357,210.00

Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Dec-30	Coartem	955800	\$802,872.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-30	Coartem	300480	\$456,729.60
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Dec-30	Coartem	546750	\$202,297.50
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Dec-30	Coartem	350100	\$262,575.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-30	Coartem	948480	\$1,327,872.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-30	Coartem	249600	\$379,392.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Dec-30	Coartem	553050	\$232,281.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-30	Coartem	726720	\$1,279,027.20
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-30	Coartem	462240	\$647,136.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	13-Dec-30	Coartem	109440	\$119,289.60
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Dec-30	Coartem	603000	\$223,110.00
Mozambique	Bed Net, Polyester, Deltamethrin, 100 dn, (160 x 180 x 210 cm), Light Blue, Rectangular, piece	14-May-19	Long-Lasting Insecticide Treated Net	275025	\$995,590.50
Mozambique	Bed Net, Polyester, Deltamethrin, 100 dn, (160 x 180 x 210 cm), Light Blue, Rectangular, piece	14-May-19	Long-Lasting Insecticide Treated Net	263875	\$955,227.50
Mozambique	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Jun-12	Rapid Diagnostic Test Kit	5750000	\$1,207,500.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-12	Coartem	600300	\$252,126.00
Mozambique	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	14-Sep-15	Malaria Pharmaceuticals	465000	\$818,400.00
Myanmar	Solvent Reservoir, Amber, 2 Liter bottle, Each	13-Oct-24	Malaria Misc. Commodities	4	\$204.45
Myanmar	High Performance Liquid Chromatography (HPLC) Machine, 1260 Infinity Quaternary LC, Each	13-Oct-24	Malaria Misc. Commodities	1	\$14,120.25
Myanmar	HPLC System Tool Kit for 1260 Infinity series, Each	13-Oct-24	Malaria Misc. Commodities	1	\$207.75
Myanmar	Solvent Reservoir, Amber, 1 Liter bottle, Each	13-Oct-24	Malaria Misc. Commodities	4	\$93.30
Myanmar	Autosampler, 1260 Infinity Standard, Each	13-Oct-24	Malaria Misc. Commodities	1	\$9,305.25
Myanmar	Thermostat for 1260 Infinity series, Each	13-Oct-24	Malaria Misc. Commodities	1	\$3,658.50
Myanmar	Thermostatted Column Compartment for 1260 Infinity series, Each	13-Oct-24	Malaria Misc. Commodities	1	\$2,455.50
Myanmar	Variable Wavelength Detector for 1260 Infinity series, Each	13-Oct-24	Malaria Misc. Commodities	1	\$7,128.00
Myanmar	Standard Flow Cell for 1260 Infinity series, Each	13-Oct-24	Malaria Misc. Commodities	1	\$860.25
Myanmar	Spare Chromatographic Column, C18, 5 µm, Each	13-Oct-24	Malaria Misc. Commodities	2	\$501.00
Myanmar	Spare Chromatographic Column, C18, 3.5 µm, Each	13-Oct-24	Malaria Misc. Commodities	2	\$946.50
Myanmar	Spare Chromatographic Column, C8, 5 µm, Each	13-Oct-24	Malaria Misc. Commodities	2	\$849.00
Myanmar	Spare Chromatographic Column, L11, 3.5 µm, Each	13-Oct-24	Malaria Misc. Commodities	2	\$898.50
Myanmar	Spare Chromatographic Column, L10, 5 µm, Each	13-Oct-24	Malaria Misc. Commodities	2	\$807.00

Myanmar	Chromatography Data System Software, Each	13-Oct-24	Malaria Misc. Commodities	1	\$960.00
Myanmar	Chromatography Data System Hardware, Each	13-Oct-24	Malaria Misc. Commodities	1	\$6,225.00
Myanmar	Manual Injector for 1260 Infinity series , Each	13-Oct-24	Malaria Misc. Commodities	1	\$1,182.00
Myanmar	Solvent Reservoir, Clear, 5 Liter bottle, Each	13-Oct-24	Malaria Misc. Commodities	4	\$210.00
Myanmar	K-O 123 Insecticide Net Treatment Kit	14-Jan-15	Malaria Misc. Commodities	50000	\$125,000.00
Myanmar	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x150), white, rectangular, piece	14-Apr-10	Long-Lasting Insecticide Treated Net	100000	\$294,500.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-May-15	Coartem	7200	\$12,672.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-May-15	Coartem	1440	\$1,958.40
Myanmar	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-May-15	Coartem	1350	\$634.50
Myanmar	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-May-15	Coartem	1350	\$1,269.00
Myanmar	Test, Rapid Diagnostic Malaria, Ag Pf/Pv, POCT [SD Biotline] Kit 25 tests,	8-Sep-14	Rapid Diagnostic Test Kit	50000	\$25,000.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-12	Coartem	960	\$1,046.40
Myanmar	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-12	Coartem	900	\$675.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-12	Coartem	900	\$333.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-12	Coartem	3840	\$5,376.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-22	Coartem	900	\$378.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-22	Coartem	900	\$756.00
Myanmar	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-22	Coartem	960	\$1,209.60
Myanmar	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-22	Coartem	3840	\$5,836.80
Nigeria	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	1-Nov-13	Malaria Pharmaceuticals	15000	\$27,450.00
Nigeria	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	1-Nov-13	Malaria Pharmaceuticals	10800	\$19,764.00
Nigeria	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x160), white, rectangular, each	8-Nov-13	Long-Lasting Insecticide Treated Net	1300000	\$3,913,000.00
Nigeria	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x160), white, rectangular, each	8-Nov-13	Long-Lasting Insecticide Treated Net	400000	\$1,204,000.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Jan-14	AS/AQ FDC	120600	\$62,712.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Jan-14	AS/AQ FDC	100200	\$89,178.00
Nigeria	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Jan-14	AS/AQ FDC	120600	\$42,210.00
Nigeria	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Jan-14	AS/AQ FDC	160600	\$41,756.00
Nigeria	Bed Net, Polyethylene, Permethrin, 150 dn, (190 x 180 x 160), white, piece	7-Feb-14	Long-Lasting Insecticide Treated Net	500000	\$1,495,000.00
Nigeria	Bed Net, Polyethylene, Permethrin, 150 dn, (190 x 180 x 160), white, piece	7-Feb-14	Long-Lasting Insecticide Treated Net	500000	\$1,495,000.00
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x3 Blister pack, 30 treatments	14-Feb-10	ALu Generic	219990	\$194,324.50

Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x4 Blister pack, 30 treatments	14-Feb-10	ALu Generic	560010	\$644,011.50
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x2 Blister pack, 30 treatments	14-Feb-10	ALu Generic	360000	\$213,600.00
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x1 Blister pack, 30 treatments	14-Feb-10	ALu Generic	360000	\$108,000.00
Nigeria	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x160), white, rectangular, each	14-Feb-10	Long-Lasting Insecticide Treated Net	1300000	\$3,913,000.00
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x1 Blister pack, 30 treatments	14-Feb-26	ALu Generic	270000	\$81,000.00
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x2 Blister pack, 30 treatments	14-Feb-26	ALu Generic	270000	\$160,200.00
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x4 Blister pack, 30 treatments	14-Feb-26	ALu Generic	420000	\$483,000.00
Nigeria	Artemether/Lumefantrine, 20mg/120mg tablets, 6x3 Blister pack, 30 treatments	14-Feb-26	ALu Generic	165000	\$145,750.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Mar-21	Coartem	420000	\$638,400.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Mar-21	Coartem	270000	\$113,400.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Mar-21	Coartem	270000	\$226,800.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Mar-21	Coartem	165120	\$208,051.20
Nigeria	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	121000	\$22,990.00
Nigeria	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	90000	\$23,868.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	90000	\$39,780.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	75000	\$57,090.00
Nigeria	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	90000	\$23,868.00
Nigeria	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	121000	\$22,990.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	90000	\$39,780.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Apr-25	AS/AQ FDC	75000	\$57,090.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Apr-28	Coartem	750150	\$562,612.50
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Apr-28	Coartem	155520	\$217,728.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Apr-28	Coartem	111360	\$155,904.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Apr-28	Coartem	47040	\$51,273.60
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Apr-29	Coartem	132960	\$180,825.60
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Apr-29	Coartem	33120	\$58,291.20
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	1-May-14	AS/AQ FDC	600000	\$456,720.00
Nigeria	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	1-May-14	AS/AQ FDC	250200	\$110,588.40
Nigeria	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	1-May-14	AS/AQ FDC	200700	\$53,225.64
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Jun-17	Coartem	750150	\$352,570.50

Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jun-17	Coartem	150240	\$204,326.40
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Jun-17	Coartem	600000	\$1,056,000.00
Nigeria	Rapid Diagnostic Malaria, HRP2 pf (CareStart) K25	1-Jul-14	Rapid Diagnostic Test Kit	2500000	\$500,000.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jul-22	Coartem	120000	\$130,800.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jul-24	Coartem	349770	\$262,327.50
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Jul-24	Coartem	449850	\$168,693.75
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Jul-24	Coartem	3000000	\$2,200,000.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Jul-28	Coartem	1400010	\$1,353,343.00
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-23	Coartem	999990	\$374,996.25
Nigeria	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-23	Coartem	800010	\$300,003.75
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-23	Coartem	849990	\$637,492.50
Nigeria	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-23	Coartem	1200000	\$1,160,000.00
Rwanda	Gloves, Latex; Powder-free; White; Single-use; Ambidextrous, Medium, pack of 100	1-Oct-13	Malaria Misc. Commodities	1000100	\$35,303.53
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Dec-12	Coartem	49950	\$46,953.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Dec-12	Coartem	38250	\$17,977.50
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-12	Coartem	71520	\$125,875.20
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	13-Dec-12	Coartem	20640	\$28,070.40
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Mar-25	Coartem	19800	\$9,306.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Mar-25	Coartem	26550	\$24,957.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Mar-25	Coartem	17760	\$24,153.60
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Mar-25	Coartem	24960	\$43,929.60
Rwanda	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	14-Apr-25	Malaria Pharmaceuticals	62406	\$112,954.86
Rwanda	Gloves, examination, Latex, Powdered, Disposable, Size Medium, pack of 100	7-May-14	Malaria Misc. Commodities	1162100	\$32,073.96
Rwanda	Gloves, examination, Latex, Powdered, Disposable, Size Medium, pack of 100	7-May-14	Malaria Misc. Commodities	1162100	\$32,073.96
Rwanda	Test, Rapid Diagnostics, Malaria Ag HRP2/pDLH ,First Response Malaria Combo Ag HRP2/pDLH Single Pack, POCT, 30	14-May-20	Rapid Diagnostic Test Kit	581010	\$273,074.70
Rwanda	Test, Rapid Diagnostics, Malaria Ag HRP2/pDLH ,First Response Malaria Combo Ag HRP2/pDLH Single Pack, POCT, 30	14-May-20	Rapid Diagnostic Test Kit	581010	\$273,074.70
Rwanda	Bed Net, Polyethylene, Permethrin, 150dn, (1250x65x250), white, conical, each	7-Jul-14	Long-Lasting Insecticide Treated Net	1400000	\$5,810,000.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-24	Coartem	146880	\$258,508.80
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-24	Coartem	87840	\$119,462.40

Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-24	Coartem	61650	\$57,951.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-24	Coartem	54900	\$25,803.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Sep-24	Coartem	112320	\$152,755.20
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-24	Coartem	78750	\$74,025.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-24	Coartem	70200	\$32,994.00
Rwanda	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-24	Coartem	188160	\$331,161.60
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-May-23	Coartem	60750	\$22,477.50
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-May-23	Coartem	82350	\$61,762.50
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-May-23	Coartem	60750	\$22,477.50
Rwanda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-May-23	Coartem	82350	\$61,762.50
Senegal	Amodiaquine, 150 mg, Tablet, 1 x 6 Blister	13-Nov-19	Malaria Pharmaceuticals	1098409	\$252,634.07
Senegal	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 100 tablets	13-Nov-19	Malaria Pharmaceuticals	1132800	\$28,320.00
Senegal	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	9-Apr-14	Malaria Pharmaceuticals	12000	\$21,960.00
Senegal	Rectal Artesunate suppository 50 mg, pack of 6	9-Apr-14	Malaria Pharmaceuticals	18000	\$6,750.00
Senegal	Rectal Artesunate suppository 200 mg, pack of 6	9-Apr-14	Malaria Pharmaceuticals	18000	\$13,050.00
Senegal	Bed Net, Polyethylene, Permethrin, 150dn, (190x180x170), Blue, rectangular, piece	14-Apr-14	Long-Lasting Insecticide Treated Net	85800	\$297,726.00
Senegal	Bed Net, Polyester, Alpha-Cypermethrin, 100 Denier (190(L) x 100(W) x 170(H) cm), Rectangular, Light Blue	14-Apr-15	Long-Lasting Insecticide Treated Net	6050	\$18,089.50
Senegal	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, White	2-May-14	Long-Lasting Insecticide Treated Net	383350	\$1,146,216.50
Senegal	Bed Net, Polyester, Deltamethrin, 100 Denier (190(L) x 180(W) x 170(H), Rectangular, Blue	2-May-14	Long-Lasting Insecticide Treated Net	567700	\$1,782,578.00
Senegal	Bed Net, Polyester, Deltamethrin, 100dn (1250 x 65 x 250 cm), light blue, conical, each	2-May-14	Long-Lasting Insecticide Treated Net	82500	\$393,525.00
Senegal	Bed Net, Polyester, Deltamethrin, 100 dn, (1250 x 65 x 250 cm), White, Conical, Each	2-May-14	Long-Lasting Insecticide Treated Net	93500	\$427,295.00
Senegal	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Aug-18	AS/AQ FDC	20700	\$10,764.00
Senegal	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Aug-18	AS/AQ FDC	34800	\$30,972.00
Senegal	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Aug-18	AS/AQ FDC	13200	\$3,432.00
Senegal	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Aug-18	AS/AQ FDC	17100	\$5,985.00
Senegal	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	2-Sep-14	Coartem	16650	\$15,651.00
Senegal	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	2-Sep-14	Coartem	21120	\$28,723.20
Senegal	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	2-Sep-14	Coartem	23520	\$41,395.20
Senegal	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	2-Sep-14	Coartem	12150	\$5,710.50
Senegal	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	2-Sep-14	Coartem	58080	\$88,281.60

Senegal	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	2-Sep-14	Coartem	51840	\$65,318.40
Senegal	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	2-Sep-14	Coartem	41400	\$34,776.00
Senegal	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	2-Sep-14	Coartem	30600	\$12,852.00
Senegal	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	2-Sep-14	Coartem	24750	\$18,562.50
Senegal	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	2-Sep-14	Coartem	18450	\$6,826.50
Senegal	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	2-Sep-14	Coartem	31200	\$34,008.00
Senegal	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	2-Sep-14	Coartem	35040	\$49,056.00
Senegal	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	30800	\$5,852.00
Senegal	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	41400	\$10,979.28
Senegal	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	52200	\$23,072.40
Senegal	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	87000	\$66,224.40
Senegal	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	18700	\$3,553.00
Senegal	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	25200	\$6,683.04
Senegal	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	31500	\$13,923.00
Senegal	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	52200	\$39,734.64
South Sudan	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	13-Oct-25	AS/AQ FDC	419100	\$146,685.00
South Sudan	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	13-Oct-25	AS/AQ FDC	433350	\$225,342.00
South Sudan	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	13-Oct-25	AS/AQ FDC	589050	\$524,254.50
South Sudan	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	13-Oct-25	AS/AQ FDC	415650	\$108,069.00
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	9-Dec-13	Rapid Diagnostic Test Kit	2250	\$585.00
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	9-Dec-13	Rapid Diagnostic Test Kit	5400	\$1,404.00
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	9-Dec-13	Rapid Diagnostic Test Kit	24600	\$6,396.00
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	9-Dec-13	Rapid Diagnostic Test Kit	76950	\$20,007.00
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	9-Dec-13	Rapid Diagnostic Test Kit	637200	\$165,672.00
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	9-Dec-13	Rapid Diagnostic Test Kit	188925	\$49,120.50
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	14-Feb-14	Rapid Diagnostic Test Kit	935325	\$243,184.50
South Sudan	Artemether 80mg/ml, 1ml inj. Pack of 6	14-Mar-25	Malaria Pharmaceuticals	88560	\$34,234.34
South Sudan	Artemether 40mg/ml, 1ml inj. Pack of 6	14-Mar-25	Malaria Pharmaceuticals	177120	\$51,795.79
South Sudan	Quinine di-HCl (injectable) 600mg/2ml, pack of 100	14-Mar-25	Malaria Pharmaceuticals	246600	\$59,593.36
South Sudan	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 100 tablets	14-Mar-25	Malaria Pharmaceuticals	1032000	\$31,366.61

South Sudan	Quinine sulphate (tablets) 300mg, bottle of 1,000	14-Mar-25	Malaria Pharmaceuticals	1001000	\$47,471.52
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	6-May-14	Rapid Diagnostic Test Kit	935325	\$243,184.50
South Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 25 tests	14-May-20	Rapid Diagnostic Test Kit	935325	\$243,184.50
South Sudan	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x150), white, rectangular, piece	14-Jun-12	Long-Lasting Insecticide Treated Net	87500	\$265,125.00
South Sudan	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x150), light blue, rectangular, piece	14-Jun-12	Long-Lasting Insecticide Treated Net	87500	\$277,375.00
South Sudan	Bed Net, Polyester, Deltamethrin, 100 Denier (1050C x 56R x 220H cm), Conical, Blue	14-Jun-12	Long-Lasting Insecticide Treated Net	87500	\$350,875.00
South Sudan	Bed Net, Polyester, Deltamethrin, 100 Denier (1050C x 56R x 220H cm), Conical, White	14-Jun-12	Long-Lasting Insecticide Treated Net	87500	\$335,125.00
South Sudan	Artemether 40mg/ml, 1ml inj. Pack of 6	14-Jun-19	Malaria Pharmaceuticals	177120	\$51,795.79
South Sudan	Artemether 80mg/ml, 1ml inj. Pack of 6	14-Jun-19	Malaria Pharmaceuticals	88560	\$34,234.34
South Sudan	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 100 tablets	14-Jun-19	Malaria Pharmaceuticals	1032000	\$31,366.61
South Sudan	Quinine sulphate (tablets) 300mg, bottle of 1,000	14-Jun-19	Malaria Pharmaceuticals	1001000	\$47,471.52
South Sudan	Quinine di-HCl (injectable) 600mg/2ml, pack of 100	14-Jun-19	Malaria Pharmaceuticals	246600	\$59,593.36
South Sudan	Quinine sulphate (tablets) 300mg, bottle of 1,000	14-Sep-22	Malaria Pharmaceuticals	1001000	\$47,471.52
South Sudan	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 100 tablets	14-Sep-22	Malaria Pharmaceuticals	1032000	\$31,366.61
South Sudan	Quinine di-HCl (injectable) 600mg/2ml, pack of 100	14-Sep-22	Malaria Pharmaceuticals	246600	\$59,593.36
South Sudan	Artemether 80mg/ml, 1ml inj. Pack of 6	14-Sep-22	Malaria Pharmaceuticals	88560	\$34,234.34
South Sudan	Artemether 40mg/ml, 1ml inj. Pack of 6	14-Sep-22	Malaria Pharmaceuticals	177120	\$51,795.79
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Dec-13	Coartem	337950	\$125,041.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Dec-13	Coartem	256950	\$192,712.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	3-Dec-13	Coartem	37440	\$40,809.60
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Dec-13	Coartem	111360	\$155,904.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Dec-13	Coartem	111360	\$155,904.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Dec-13	Coartem	337950	\$125,041.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Dec-13	Coartem	256950	\$192,712.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	3-Dec-13	Coartem	37440	\$40,809.60
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Dec-13	Coartem	337950	\$125,041.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Dec-13	Coartem	111360	\$155,904.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	3-Dec-13	Coartem	37440	\$40,809.60
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Dec-13	Coartem	256950	\$192,712.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Dec-13	Coartem	337950	\$125,041.50

Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Dec-13	Coartem	256950	\$192,712.50
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Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Dec-13	Coartem	337950	\$125,041.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Dec-13	Coartem	256950	\$192,712.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	3-Dec-13	Coartem	37440	\$40,809.60
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Dec-13	Coartem	111360	\$155,904.00
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	72600	\$18,876.00
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	91800	\$32,130.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	52200	\$27,144.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	44400	\$39,516.00
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	72600	\$18,876.00
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	91800	\$32,130.00
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Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	72600	\$18,876.00
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Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	3-Dec-13	AS/AQ FDC	91800	\$32,130.00

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Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	13-Dec-12	Coartem	37440	\$40,809.60
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Dec-12	Coartem	111360	\$155,904.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Dec-12	Coartem	256950	\$192,712.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Dec-12	Coartem	337950	\$125,041.50
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	58500	\$18,532.80
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48000	\$39,283.20
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48600	\$23,094.72
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	83600	\$19,863.36
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48000	\$39,283.20
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48600	\$23,094.72
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	83600	\$19,863.36
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Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48600	\$23,094.72
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	58500	\$20,475.00
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	83600	\$21,736.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48600	\$25,272.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48000	\$42,720.00
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	58500	\$20,475.00
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	83600	\$21,736.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48600	\$25,272.00
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Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Apr-14	AS/AQ FDC	48000	\$42,720.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	8-Apr-14	Coartem	100320	\$109,348.80

Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	8-Apr-14	Coartem	115200	\$161,280.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	8-Apr-14	Coartem	290250	\$107,392.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	8-Apr-14	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	8-Apr-14	Coartem	100320	\$109,348.80
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	8-Apr-14	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	8-Apr-14	Coartem	290250	\$107,392.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	8-Apr-14	Coartem	115200	\$161,280.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	8-Apr-14	Coartem	100320	\$109,348.80
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Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	8-Apr-14	Coartem	290250	\$107,392.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	8-Apr-14	Coartem	115200	\$161,280.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	9-May-14	Coartem	475200	\$175,824.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	9-May-14	Coartem	450000	\$337,500.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jun-27	Coartem	110880	\$120,859.20
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Jun-27	Coartem	120000	\$168,000.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Jun-27	Coartem	279000	\$103,230.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Jun-27	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Jun-27	Coartem	120000	\$168,000.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jun-27	Coartem	110880	\$120,859.20
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Jun-27	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Jun-27	Coartem	279000	\$103,230.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Jun-27	Coartem	279000	\$103,230.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jun-27	Coartem	110880	\$120,859.20
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Jun-27	Coartem	120000	\$168,000.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Jun-27	Coartem	220050	\$165,037.50
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	45000	\$34,254.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	48600	\$21,481.20
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	49500	\$13,127.40
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	63800	\$12,122.00
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	49500	\$13,127.40

Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	48600	\$21,481.20
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Jul-11	AS/AQ FDC	45000	\$34,254.00
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Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	9-Sep-14	Coartem	290250	\$107,392.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	9-Sep-14	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	9-Sep-14	Coartem	100320	\$109,348.80
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Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	9-Sep-14	Coartem	290250	\$107,392.50
Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	63800	\$12,122.00
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	49500	\$13,127.40
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	45000	\$34,254.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	48600	\$21,481.20
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Stockpile	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	63800	\$12,122.00
Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	48600	\$21,481.20
Stockpile	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	49500	\$13,127.40

Stockpile	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	14-Sep-17	AS/AQ FDC	45000	\$34,254.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-23	Coartem	279000	\$103,230.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-23	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-23	Coartem	110880	\$120,859.20
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-23	Coartem	120000	\$168,000.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-23	Coartem	120000	\$168,000.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-23	Coartem	110880	\$120,859.20
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-23	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-23	Coartem	279000	\$103,230.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-23	Coartem	110880	\$120,859.20
Stockpile	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-23	Coartem	120000	\$168,000.00
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-23	Coartem	220050	\$165,037.50
Stockpile	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-23	Coartem	279000	\$103,230.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	13-Nov-25	Coartem	23040	\$31,334.40
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	13-Nov-25	Coartem	36000	\$33,840.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Nov-25	Coartem	41400	\$19,458.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Nov-25	Coartem	44160	\$77,721.60
Tanzania	Bed Net, Polyester, Deltamethrin, 100 Denier (180(L) x 160(W) x 180(H) cm), Rectangular, Blue	3-Jan-14	Long-Lasting Insecticide Treated Net	500000	\$1,680,000.00
Tanzania	Test, Rapid Diagnostic, First Response Malaria Ag Combo, HRP2/pLDH, kits of 25	14-Feb-10	Rapid Diagnostic Test Kit	192000	\$57,600.00
Tanzania	Bed Net, Polyester, Alpha-Cypermethrin, 100dn, (180(L) x 160(W) x 180(H) cm), Rectangular, Light Blue, each	9-Apr-14	Long-Lasting Insecticide Treated Net	50000	\$177,000.00
Tanzania	Test, Rapid Diagnostic Malaria, Ag Pf/PAN, [SD Bioline], Kit 25 tests	14-May-21	Rapid Diagnostic Test Kit	2899975	\$1,304,988.75
Tanzania	Test, Rapid Diagnostic Malaria, Ag Pf/PAN, [SD Bioline], Kit 25 tests	14-May-21	Rapid Diagnostic Test Kit	3531825	\$1,589,321.25
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	2-Sep-14	Coartem	26100	\$12,267.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	2-Sep-14	Coartem	6720	\$9,139.20
Tanzania	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	2-Sep-14	Coartem	9600	\$16,896.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	2-Sep-14	Coartem	13950	\$13,113.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-15	Coartem	390150	\$144,355.50
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-16	Coartem	497700	\$233,919.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-24	Coartem	586020	\$421,934.40
Thailand	Dihydroartemisinin-Piperaquine: DHA-PQP (Eurartesim) 20mg/160mg, tablet, 3 tablet pack	13-Dec-12	Malaria Pharmaceuticals	3000	\$660.00

Thailand	Dihydroartemisinin-Piperaquine: DHA-PQP (Eurartesim) 40mg/320mg, tablet, 9 tablet pack	13-Dec-12	Malaria Pharmaceuticals	81000	\$17,820.00
Uganda	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	13-Oct-29	Malaria Pharmaceuticals	100000	\$183,000.00
Uganda	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	13-Oct-29	Malaria Pharmaceuticals	308750	\$565,012.50
Uganda	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	5-Nov-13	Coartem	171840	\$233,702.40
Uganda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	5-Nov-13	Coartem	148050	\$139,167.00
Uganda	Bed Net, Polyester, Deltamethrin, 100 Denier (160(W) x 180(L) x 170(H) cm), Rectangular, white	13-Dec-16	Long-Lasting Insecticide Treated Net	600000	\$1,710,000.00
Uganda	Bed Net, Polyester, Deltamethrin, 100 Denier (160(W) x 180(L) x 170(H) cm), Rectangular, white	13-Dec-16	Long-Lasting Insecticide Treated Net	599955	\$1,709,871.75
Uganda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	2-Sep-14	Coartem	200250	\$168,210.00
Uganda	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	2-Sep-14	Coartem	106560	\$134,265.60
Uganda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	2-Sep-14	Coartem	135450	\$56,889.00
Uganda	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	5-Sep-14	Long-Lasting Insecticide Treated Net	552622	\$1,597,077.58
Uganda DfID	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	5-Sep-14	Long-Lasting Insecticide Treated Net	500000	\$1,445,000.00
Uganda DfID	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	5-Sep-14	Long-Lasting Insecticide Treated Net	47378	\$136,922.42
Uganda DfID	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	5-Sep-14	Long-Lasting Insecticide Treated Net	500000	\$1,445,000.00
Zambia	Bed Net, Polyethylene, Permethrin, 150 dn, (160 x 180 x 170 cm), White, Rectangular, piece	13-Dec-16	Long-Lasting Insecticide Treated Net	498055	\$1,484,203.90
Zambia	Bed Net, Polyethylene, Permethrin, 150 dn, (160 x 180 x 170 cm), White, Rectangular, piece	13-Dec-16	Long-Lasting Insecticide Treated Net	41945	\$124,996.10
Zambia	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	13-Dec-16	Malaria Pharmaceuticals	20000	\$36,600.00
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	3-Feb-14	Coartem	98400	\$80,688.00
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Feb-14	Coartem	98880	\$103,824.00
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	3-Feb-14	Coartem	500400	\$280,224.00
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Feb-14	Coartem	454590	\$127,285.20
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	3-Feb-14	Coartem	469350	\$220,594.50
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	3-Feb-14	Coartem	401760	\$546,393.60
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Feb-14	Coartem	450720	\$793,267.20
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	3-Feb-14	Coartem	450720	\$793,267.20
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Feb-20	Coartem	76410	\$35,912.70
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Feb-24	Coartem	500400	\$420,336.00
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Feb-24	Coartem	1000350	\$420,147.00
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Feb-24	Coartem	500160	\$700,224.00
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Feb-24	Coartem	500160	\$545,174.40

Zambia	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Jun-25	Rapid Diagnostic Test Kit	4000000	\$840,000.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	10000	\$27,500.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	90000	\$247,500.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	45000	\$123,750.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	90000	\$247,500.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	90000	\$247,500.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	45000	\$123,750.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	90000	\$247,500.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	15000	\$41,250.00
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jun-30	Long-Lasting Insecticide Treated Net	15000	\$41,250.00
Zambia	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	2-Sep-14	Malaria Pharmaceuticals	60000	\$109,200.00
Zambia	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	2-Sep-14	Malaria Pharmaceuticals	60000	\$109,200.00
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-12	Coartem	200640	\$252,806.40
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Sep-12	Coartem	300000	\$408,000.00
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-12	Coartem	796320	\$1,401,523.20
Zambia DfID	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 170(H) cm), Rectangular, White	13-Oct-15	Long-Lasting Insecticide Treated Net	200000	\$576,000.00
Zambia DfID	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	13-Oct-28	Rapid Diagnostic Test Kit	4000000	\$940,000.00
Zambia DfID	Atropine Injection, 0.6 mg/1 ml ampoule, 10 ampoules per pack	2-Dec-13	Malaria Pharmaceuticals	46000	\$24,150.00
Zambia DfID	Atropine Injection, 0.6 mg/1 ml ampoule, 10 ampoules per pack	2-Dec-13	Malaria Pharmaceuticals	72000	\$37,800.00
Zambia DfID	Atropine Injection, 0.6 mg/1 ml ampoule, 10 ampoules per pack	2-Dec-13	Malaria Pharmaceuticals	72000	\$37,800.00
Zambia DfID	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	14-Jan-27	Long-Lasting Insecticide Treated Net	200000	\$602,000.00
Zambia DfID	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Jan-28	Rapid Diagnostic Test Kit	3500000	\$752,500.00
Zambia DfID	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	14-Jan-28	Rapid Diagnostic Test Kit	2000000	\$430,000.00
Zambia DfID	Chlorpromazine Injection, 25mg/1ml ampoule, 10 ampoules per pack	14-Feb-25	Malaria Misc. Commodities	15000	\$8,580.00
Zambia DfID	Paracetamol 500mg., 1000 tablets	14-Mar-11	Essential Medicines PH	70000000	\$238,700.00
Zambia DfID	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Jul-15	Coartem	700200	\$658,188.00
Zambia DfID	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Jul-15	Coartem	300000	\$408,000.00
Zambia PEPFAR	Bed Net, Polyethylene, Permethrin, 150 dn, (160 x 180 x 170 cm), White, Rectangular, piece	13-Nov-15	Long-Lasting Insecticide Treated Net	600000	\$1,788,000.00
Zimbabwe	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	13-Nov-25	Rapid Diagnostic Test Kit	952000	\$276,080.00
Zimbabwe	Test, Rapid Diagnostic, First Response Malaria Ag Combo, HRP2/pLDH, kits of 25	13-Nov-25	Rapid Diagnostic Test Kit	100000	\$40,000.00

Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Nov-26	Coartem	135450	\$63,661.50
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Nov-26	Coartem	184800	\$325,248.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	13-Nov-26	Coartem	66720	\$90,739.20
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	13-Nov-26	Coartem	135450	\$56,889.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	13-Nov-26	Coartem	66720	\$84,067.20
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	13-Nov-26	Coartem	184800	\$280,896.00
Zimbabwe	Bed Net, Polyester, Deltamethrin, 100 DN (1050 x 56 x 220cm), Blue,Conical	6-Feb-14	Long-Lasting Insecticide Treated Net	888000	\$3,445,440.00
Zimbabwe	Sulfadoxine/Pyrimethamine 500mg/25mg, 50x3 tablets, 150 tablets	14-Feb-11	Malaria Pharmaceuticals	1200000	\$46,400.00
Zimbabwe	Quinine Sulphate 300mg tabs, pack of 100 tablets	14-Feb-11	Malaria Pharmaceuticals	1015200	\$108,423.36
Zimbabwe	Quinine di-HCl 300mg/ml Inj., 2 ml, 100 AMP	14-Feb-11	Malaria Misc. Commodities	120000	\$32,100.00
Zimbabwe	Test, Rapid Diagnostic Malaria, Ag Pf, Cassette,[SD Bioline] Kit 25 tests	14-Feb-24	Rapid Diagnostic Test Kit	1133000	\$305,910.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Apr-14	Coartem	130080	\$163,900.80
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Apr-14	Coartem	294240	\$447,244.80
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Apr-14	Coartem	78300	\$65,772.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Apr-14	Coartem	145800	\$61,236.00
Zimbabwe	Sulfadoxine/Pyrimethamine 500mg/25mg, pack of 150 tablets	14-May-28	Malaria Pharmaceuticals	1162500	\$52,312.50
Zimbabwe	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	7-Jul-14	AS/AQ FDC	4500	\$2,340.00
Zimbabwe	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	7-Jul-14	AS/AQ FDC	7800	\$6,942.00
Zimbabwe	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	7-Jul-14	AS/AQ FDC	4400	\$1,144.00
Zimbabwe	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	7-Jul-14	AS/AQ FDC	4500	\$1,575.00
Zimbabwe	Rectal Artesunate suppository 200 mg, pack of 6	14-Jul-29	Malaria Pharmaceuticals	32400	\$20,790.00
Zimbabwe	Rectal Artesunate suppository 50 mg, pack of 6	14-Jul-29	Malaria Pharmaceuticals	32400	\$11,988.00
Zimbabwe	Test, Rapid Diagnostic, First Response Malaria Ag Combo, HRP2/pLDH, kits of 25	5-Aug-14	Rapid Diagnostic Test Kit	81000	\$32,400.00
Zimbabwe	1 vial Artesunate injection 60mg + 1 sodium bicarbonate solvent + 1 sodium chloride solvent, each	5-Aug-14	Malaria Pharmaceuticals	182755	\$332,614.10
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Aug-28	Coartem	70560	\$124,185.60
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Aug-28	Coartem	128700	\$120,978.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Aug-28	Coartem	94500	\$44,415.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	14-Aug-28	Coartem	40320	\$54,835.20
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	14-Sep-24	Coartem	81900	\$61,425.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	14-Sep-24	Coartem	111600	\$41,292.00

Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	14-Sep-24	Coartem	205920	\$288,288.00
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	14-Sep-24	Coartem	74880	\$81,619.20

## Appendix B. DFID-Funded Procurement 2014

Country	Item Description	PO#	Quantity (Packs)	Commodity Value	Delivery Status
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (180(W) x 160(L) x 170(H) cm), Rectangular, White	PO-PUP-1513	200000	\$576,000.00	Delivered.
Zambia	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	PO-PUC-1277	160000	\$940,000.00	Delivered.
Zambia	Atropine Injection, 0.6 mg/1 ml ampoule, 10 ampoules per pack	PO-PUP-1558	4600	\$24,150.00	Delivered.
Zambia	Atropine Injection, 0.6 mg/1 ml ampoule, 10 ampoules per pack	PO-PUP-1559	7200	\$37,800.00	Delivered.
Zambia	Atropine Injection, 0.6 mg/1 ml ampoule, 10 ampoules per pack	PO-PUP-1560	7200	\$37,800.00	Delivery expected January 2015
Zambia	Bed Net, Polyester, Deltamethrin, 100 Denier (160(L) x 180(W) x 170(H) cm), Rectangular, White	PO-PUP-1636	200000	\$602,000.00	Delivered.
Zambia	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	PO-PUC-1368	140000	\$752,500.00	Delivered.
Zambia	Test, Rapid Diagnostic Malaria, Ag Pf , Cassette,[SD Bioline] Kit 25 tests	PO-PUC-1369	80000	\$430,000.00	Delivery expected December 2014
Zambia	Chlorpromazine Injection, 25mg/1ml ampoule, 10 ampoules per pack	PO-PUP-1685	1500	\$8,580.00	Delivered.
Zambia	Paracetamol 500mg., 1000 tablets	PO-PUP-1691	70000	\$238,700.00	Delivered.
Zambia	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	PO-PUP-1765	23340	\$658,188.00	Delivery expected December 2014
Zambia	Artemether/Lumefantrine 20mg/120mg, tablets,6x3 Blister Pack, 30 treatments	PO-PUP-1765	10000	\$408,000.00	Delivery expected December 2014
Uganda	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	PO-PUP-1786	500000	\$1,445,000.00	Delivery expected February 2015.
Uganda	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	PO-PUP-1788	47378	\$136,922.42	Delivery expected February 2015.
Uganda	Bed Net, Rectangular, Polyester, Deltamethrin, 100dn, (160 x 180 x 170 cm) White, Piece	PO-PUP-1789	500000	\$1,445,000.00	Delivery expected February 2015.

# Appendix C. Pre-Selected RDT Manufacturers

Manufacturer	Test Name	Target Antigen	Species	Comments
<b>Access Bio</b>	CareStart™ Malaria	pLDH	PAN	
	CareStart™ Malaria Single Kit	pLDH	PAN	
	CareStart™ Malaria 3 line	pLDH	Pf/PAN	
	CareStart™ Malaria 3 line Single Kit	pLDH	Pf/PAN	
	CareStart™ Malaria Combo	HRP2/pLDH	Pf/PAN	
	CareStart™ Malaria Combo Single Kit	HRP2/pLDH	Pf/PAN	
	CareStart™ Malaria	HRP2	Pf	
	CareStart™ Malaria Single Kit	HRP2	Pf	
	CareStart™ Malaria (Pf/Pv) Combo	HRP2/pLDH	Pf/Pv	
	CareStart™ Malaria Combo Single Kit	HRP2/pLDH	Pf/Pv	
	CareStart™ Malaria Combo	HRP2/pLDH	Pf/VOM	VOM = Vivax, Ovale, Malariae,
	CareStart™ Malaria Combo Single Kit	HRP2/pLDH	Pf/VOM	
	CareStart™ Malaria	HRP2/pLDH	Pf	
	CareStart™ Malaria Single Kit	HRP2/pLDH	Pf	
	CareStart™ Malaria SCREEN			
CareStart™ Malaria SCREEN Single Kit				
<b>ICT</b>	Malaria Pf Casette	HRP2	Pf	
<b>Orchid Biomedical</b>	Paracheck Pf Device	HRP2	Pf	
<b>Premier Medical</b>	First Response Malaria Ag -Bulk	HRP2	Pf	
	First Response Malaria Ag – POCT	HRP2	Pf	
	First Response Malaria Combo – Bulk	pLDH/HRP2	Pf/PAN	
	First Response Malaria Combo – POCT	pLDH/HRP2	Pf/PAN	
<b>Span</b>	ParaHIT f Device	HRP2	Pf	
	ParaHIT f Dipstick	HRP2	Pf/Pan	
	ParaHIT Total Device	HRP2	Pf/Pan	
<b>Standard Diagnostics</b>	Bioline Malaria Ag Pf	HRP2	Pf	

Manufacturer	Test Name	Target Antigen	Species	Comments
	Bioline Malaria Ag Pf/PAN	HRP2/pLDH	Pf/PAN	
	Bioline Malaria Ag Pf/Pv	HRP2/pLDH	Pf/Pv	
	Bioline Malaria Ag Pf	HRP2/pLDH	Pf	
	Bioline Malaria Ag Pf -individual	HRP2	Pf	
	Bioline Malaria Ag Pf/PAN-individual	HRP2/pLDH	Pf/PAN	
	Bioline Malaria Ag Pf/Pv - individual	HRP2/pLDH	Pf/Pv	
	Bioline Malaria Ag Pf-individual	HRP2/pLDH	Pf	

## Appendix D. Pre-Selected LLIN Manufacturers

LN	Supplier	Approved Manufacturing Sites	Polyester	Polyethylene	Polypropelene	Denier	Pesticide	Whopes Status
Interceptor®	BASF	Ratchaburi, THAILAND / Taicang City, Jiangsu CHINA	√			75 & 100	Alpha-cypermethrin	Interim
DuraNet®	Shobikaa Impex Private Ltd	Kurar, INDIA		√		145+/- 5% (138 – 152)	Alpha-cypermethrin	Full
DuraNet®	Bestnet A/S	Shanghai CHINA		√		145+/- 5% (138 – 152)	Alpha-cypermethrin	Full
Olyset®	Sumitomo Chemical	Arusha, TANZANIA, / Dalian, CHINA / Ho Chi Minh VIETNAM		√		150	Permethrin	Full
Olyset®	A-Z Textile Mills Ltd	Arusha, TANZANIA		√		150	Permethrin	Full
DawaPlus®2.0	Tana Netting	Lahore, PAKISTAN	√			75 & 100	Deltamethrin	Interim
Permanet®2.0	Vestergaard Frandsen	Hanoi, VIETNAM	√			75 & 100	Deltamethrin	Full
Permanet®3.0	Vestergaard Frandsen	Hanoi, VIETNAM	√	√		100 (roof) / 100 (sides - no border) / 75 (sides with 70cm lower border)	Deltamethrin	Interim
LifeNet®	Bayer	THAILAND			√	100	Deltamethrin	Interim

## Appendix E. WHO Pre-Qualified ACT Manufacturers

Manufacturer	Product	Details
Novartis Pharma AG	Coartem® FDC	Artemether/Lumefantrine, 20mg/120mg, four dosage presentations
Sanofi Aventis/Africasoins	Winthrop® FDC ASAQ	Artesunate+Amodiaquine, four dosage presentations
IPCA Laboratories Ltd	Generic FDC ASAQ	Artesunate+Amodiaquine, four dosage presentations
Ajanta Pharma Limited	Generic ALu	Artemether/Lumefantrine, 20mg/120mg, six dosage presentations
Strides Arcolab Limited	Generic ALu	Artemether/Lumefantrine, 20mg/120mg, four dosage presentations
Sigma Tau	Eurartesim® - PQP+DHA	Piperaquine tetraphosphate + dihydroartemisinin 160/20 mg, 320/40 mg

# Appendix F. Obj. 2 PMP Indicators Supplemental Information

INDICATOR 1: Facility Stockout Rate (the percentage of facilities that experienced a stockout of a product expected to be provided or issued by that site on the day of visit) (Source: EUV)

Country	Period	N	Facilities Stocked Out of All ACTs		Comments
			#	%	
Burkina	Apr-June 2014	40	0	0%	
	July-Sept 2014	39	0	0%	
Ghana	Oct-Dec 2013	37	8	22%	
	Jan-Mar 2014	30	7	22%	
	Apr-June 2014	40	10	25%	
	July-Sept 2014	37	6	17%	
Liberia	Oct-Dec 2013	NA		NA	The project did not have responsibility for EUV this quarter, taking over from SIAPS in subsequent quarters
	Jan-Mar 2014	72	0	0	
	Apr-June 2014	68	1	1.5%	
	July-Sept 2014				
Malawi	Oct-Dec 2013	59	1	2%	
	Jan-Mar 2014	60	1	2%	
	Apr-June 2014	60	5	9%	
	July-Sept 2014	58	1	2%	
Mozambique	Oct-Dec 2013	21	0	0%	
	Jan-Mar 2014	39	0	0%	
	Apr-June 2014	47	0	0%	
	July-Sept 2014				
Nigeria	Oct-Dec 2013	94	7	7%	
	Jan-Mar 2014	n/a	n/a	n/a	Nigeria conducts EUV on a semiannual basis
	Apr-June 2014	110	105	97%	
	July-Sept 2014	n/a	n/a	n/a	Nigeria conducts EUV on a semiannual basis
Tanzania	Oct-Dec 2013	228	15	7%	
	Jan-Mar 2014	212	19	9%	
	Apr-June 2014	205	13	6%	
	July-Sept 2014	215	4	2%	
Zambia	Oct-Dec 2013	29	0	0%	
	Jan-Mar 2014	16	0	0%	
	Apr-June 2014	32	1	3%	
	July-Sept 2014				
Zimbabwe	Oct-Dec 2013	37	1	3%	
	Jan-Mar 2014	40	2	5%	
	Apr-June 2014	28	1	4%	
	July-Sept 2014	40	0	0%	

Note: "Stocked out of all ACTs" indicates an absence of all four A/L presentations: A/L 6x1, A/L 6x2, A/L 6x3, and A/L 6x4. Data for Ghana and Nigeria are an exception, as they reflect the absence of only WHO pre-qualified ACTs for all A/L and AS/AQ presentations (FDC and co-blister)

Nigeria collects EUV data only on a semiannual basis, and reports separately for states receiving support from the MAPS project, and those that are not.

This indicator could not be calculated for the following TO7 presence countries, as the requisite data are not reported through an LMIS and/or these countries did not implement the End-Use Verification activity: Burkina Faso, Burundi, Liberia, Madagascar, and Rwanda.

INDICATOR 2: Country stockout rate: the percentage of countries experiencing a stockout at the central warehouse(s) at the time of reporting (Source: PPMRm)

### October – December 2013

Commodity	% Stocked Out	N	Countries/States Stocked Out
A/L 6x1	0%	24	
A/L 6x2	4%	24	Nigeria - Nassarawa
A/L 6x3	13%	24	Benin, Nigeria – Nassarwa, Nigeria - Zamfara
A/L 6x4	4%	24	Benin
FDC AS/AQ 25/67.5mg	0%	7	
FDC AS/AQ 50/135mg	14%	7	Burkina Faso
FDC AS/AQ 100/270mg, 3 tabs	0%	7	
FDC AS/AQ 100/270mg, 6 tabs	0%	6	
SP	17%	24	DRC, Guinea, Nigeria – Benue, Nigeria - Nassarawa
RDTs	10%	21	Burkina Faso, Kenya

### January – March 2014

Commodity	% Stocked Out	N	Countries/States Stocked Out
A/L 6x1	9%	23	Ghana, Kenya
A/L 6x2	13%	23	Ghana, Kenya, Nigeria– Benue
A/L 6x3	22%	23	Benin, Ghana, Kenya, Nigeria– Benue, Nigeria– Sokoto
A/L 6x4	9%	23	Benin, Ghana
FDC AS/AQ 25/67.5mg	0%	7	
FDC AS/AQ 50/135mg	0%	7	
FDC AS/AQ 100/270mg, 3 tabs	14%	7	Ghana
FDC AS/AQ 100/270mg, 6 tabs	0%	6	
SP	0%	22	
RDTs	0%	20	

### April-June 2014

Commodity	% Stocked Out	N	Countries/States Stocked Out
A/L 6x1	4%	24	Kenya
A/L 6x2	4%	24	Kenya
A/L 6x3	8%	24	Ghana, Kenya
A/L 6x4	4%	24	Kenya
FDC AS/AQ 25/67.5mg	0%	7	
FDC AS/AQ 50/135mg	0%	7	
FDC AS/AQ 100/270mg, 3 tabs	14%	7	Ghana
FDC AS/AQ 100/270mg, 6 tabs	29%	7	Benin, Ghana
SP	8%	24	Burundi, Tanzania
RDTs	5%	21	Burundi

### July-September, 2014

Commodity	% Stocked Out	N	Countries/States Stocked Out
A/L 6x1	0%	22	
A/L 6x2	9%	22	Kenya, Zambia
A/L 6x3	9%	22	Kenya, Zambia
A/L 6x4	9%	22	Kenya, Zambia
FDC AS/AQ 25/67.5mg	22%	9	Ghana, South Sudan
FDC AS/AQ 50/135mg	11%	9	South Sudan
FDC AS/AQ 100/270mg, 3 tabs	22%	9	Ghana, South Sudan
FDC AS/AQ 100/270mg, 6 tabs	11%	8	South Sudan
SP	8%	24	Kenya, South Sudan
RDTs	0%	21	

INDICATOR 3: Functioning LMIS: Percentage of countries where an LMIS is present that routinely collects and reports stock status data (i.e., stock on hand and consumption data) from all SDPs (service delivery points) in the country

Country	Functioning LMIS	Note
Burkina Faso	Yes	<p>There is a combined Logistics and Statistics data reporting system for malaria activities in Burkina. The stock on hand and consumption data are reported on monthly basis from the health facilities (HF) and from the community health workers. At the district level, the district data manager enters the HF monthly report data into a database designed for malaria activities reporting, and sends the quarterly report file to the central level through the region by internet. In November 2012 the project provided financial support to review the malaria database and to align it to the recent changes made to the health facility monthly reporting form. The health facility monthly reporting form was revised in order to allow for the collection of new malaria indicators related to ACT management at the community level. The project also funded a training for all data providers on the revised database.</p> <p>The development of the database was funded under GFATM round 7 grants and implemented in all the districts since December 2010 with technical and financial support from the project.</p> <p>The project provided technical and financial support to the NMCP for monitoring the use of the database in the field. Due to the high turnover rate of the data managers, the project together with the NMCP provided an orientation to the newly appointed data managers at the district and regional levels in September 2014.</p>
DRC	No	The LMIS Roadmap tool is available, and a technical and coordination LMIS working group is operational.
Ghana	No	Presently, the data does not arrive at the central level in time to be used for decision making purposes. Issues data is collected manually on a quarterly basis from each of the 10 regional medical stores for the purpose of updating the pipeline. As part of many efforts to obtain some logistics information from lower levels, the project has supported the Brong Ahafo regional health directorate to train district Pharmacists from each district in the region for the district Pharmacist to collect, aggregate and share logistics report for Malaria and other health program commodities with the regional health directorate and central level stakeholders. The concept will be scaled up to other regions to improve logistics information sharing
Liberia	Yes	LMIS has been rolled out in various counties, each county is due to report every month, however, and there are still challenges in timely reporting and the use of the tools. A separate LMIS has been implemented as part of the IA. Routine system performance data, including stockout rates and consumption, are routinely available from 4 of 15 counties in Liberia.
Madagascar	No	<p>Until mid-2014, because of restrictions on working directly with the GOM, the Project did not directly support the LMIS.</p> <p>However, the US Government has recently lifted restrictions, so the project is now working to improve this system.</p>
Malawi	Yes	100 % of health facilities in Malawi are integrated into LMIS. Reporting rate for service delivery points has been maintained at an average of 85% during the year reaching a maximum of 90% for May and July, 2014. This is significant improvement from 54% as of March, 2013.

Country	Functioning LMIS	Note
Mozambique	No	<p>Mozambique has an LMIS, but it does not provide data from all SDPs in the country. There is a paper-based LMIS that includes standard data points such as stock on hand, quantity distributed, quantity requested, etc., and is used by facilities to reorder from the districts monthly. The districts aggregate these orders and order monthly from the provinces. District reporting rates are above 90%. Individual SDP data remains at the district level. Provinces order quarterly from the central level. The percentage of facilities not included in the district aggregations is unknown, as is the percentage of districts not included in the provincial aggregations.</p> <p>An automated system (SIMAM) has been implemented at the central and provincial levels. The system allows for provinces to enter district data (SOH, quantity requisitioned, quantity received) as well as the same data from the provincial level. These data are posted to Drop Boxes visible at the central level. All provinces now use SIMAM when making their quarterly requisitions; however, all provinces do not yet post complete data from the districts.</p>
Nigeria	Yes	<p>The Malaria Commodity Logistics System has established procedures for receiving and reporting on stock at the health facility level. There is an established National Malaria Commodity System that aggregate logistics information from Service Delivery Points to Local Government through state to National level. Information is gathered bimonthly on average monthly consumption, Stock-out rate, stock balance and facilities reporting rate through aggregation at four levels in the country. However, state's response in reporting is very poor and hence National consumption data is poor.</p>
RDMA	<p>Cambodia: Yes Laos: Yes Burma: Yes</p>	<p><b>Cambodia:</b> Yes. The LMIS collects data down to the health facility and Village Malaria Worker (VMW) level however this data gets aggregated at a district level so stock status from individual SDPs is not accessible to the NMCP at the central level. Support for the existing eLIMS has been cut so the system is becoming less reliable.</p> <p><b>Laos:</b> Yes. The LMIS tool gathers two separate streams of data on essential malaria commodities (ACTs, RDTs and Artesunate). Stock on hand data is collected at the provincial and district levels on a weekly basis. This information is used for forecasting and the creation of national distribution plans.</p> <p>The second stream captures supply chain information up to the health center and village levels but the quality of information from this source is disputable. It is expected that the quality of the data will improve with the deployment of a new LMIS collection form.</p> <p><b>Burma/Myanmar:</b> Yes. Burma/Myanmar has an LMIS system for malaria that is supported by PR-UNOPS however this system is predominantly paper based so the data is difficult to access and not timely</p>
Rwanda	Yes	<p>Rwanda has continued having a functioning LMIS during the reporting period. The project collected, computed, and analyzed malaria commodity data from 30 district pharmacies and on average 575 health facilities. The average reporting rates were 100% for districts and 93.4% for health facilities.</p>
South Sudan	No	<p>Non-functional paper-based system where what data is able to be gathered is not organized or analyzed in any systemic way useful for decision-making.</p>
Tanzania	Yes	<p>In this fiscal year, Tanzania began the implementation of the eLMIS at the district level. To date 96% of the districts have been trained and they report and request commodities for health facilities on routine</p>

Country	Functioning LMIS	Note
		<p>basis through the eLMIS. The latest reporting rates for the Integrated Logistics System (ILS) reporting rates, through which ACTs and mRDTs are managed is 94%.</p> <p>The ILSGateway rollout training has been completed across the country. This is a complementary SMS based data collection tool developed under the USAID   DELIVER PROJECT that has been implemented in 4,603 health facilities and is collecting monthly information on stock on hand data, status of Report and Request (R&amp;R) submission and status of deliveries receipt.</p>
vZambia	Yes	<p>With Support from USAID   DELIVER PROJECT, the Ministry of Health has since 2009 been implementing the EMLIP an intervention to address medicine availability and distribution at health service delivery point. Following a system performance review, EMLIP was redesigned (hybridized) to allow the district to hold supplementary drugs for facilities to access on an emergency basis. Additionally, MOH has approved the hub strategy which is a decentralization of central medical Stores to regional warehouses. The regional warehouses will serve as a cross docking station and will provide the last mile delivery to health facilities. By the end of September 2014, EMLIP Hybrid will be active in 33 districts (out of 102). At the end of this period, a total of 2,412 health facility staff will be trained.</p>
Zimbabwe	Yes	<p>Automated (AutoDRV/AutoOrder) system exists for routine collection of LMIS data from SDPs. Central LMIS (TOP UP) exists for routine analysis and reporting stock status data.</p>

INDICATOR 6: Percentage of countries receiving field support TA funds reporting on supply chain performance via the End-Use Verification activity

Country	End-Use Carried Out by the Project	Note
Burkina Faso	Yes	<p>Burkina began implementing the EUV activity quarterly starting in April 2014. The project conducted two rounds of EUV activity during this fiscal year (April/May and July 2014).</p>
Ghana	Yes	<p>Ghana has been carrying out the End-Use activity quarterly since July 2009 and provided supporting reports for this activity. The EUV covers the entire country and the reports generated have informed decisions regarding commodity procurement, distribution and redistribution, supportive supervision and training.</p>
Liberia	Yes	<p>The EUV activity has been combined with the data verification activity of the Interim Approach, following each distribution round. The EUV/data verification activity was conducted in March and August 2014.</p>
Madagascar	No	<p>Although restrictions in working with the Malagasy Government have recently been lifted, the End-Use Verification activity has not yet been implemented.</p>
Malawi	Yes	<p>The project assumed responsibility for the End-Use activity in FY2011, and has carried out quarterly data collection since that time. A total of three EUV exercises were conducted in FY 2014.</p>
Mozambique	Yes	<p>The project has completed End Use Verification data collection visits to Nampula, Maputo Province and Maputo City thus far this year.</p>
Nigeria	Yes	<p>Nigeria's first EUV activity was conducted in November/December</p>

		of 2012. Presently 4 cycles of EUV have been carried out in Nigeria.
RDMA	No	No countries in RDMA (Laos, Burma, Cambodia) have been selected to execute EUV surveys by PMI Malaria Operational Plans.
Rwanda	N/A	Although Rwanda is a TO7 presence country, responsibility for the End-Use activity is no longer in our mandate as we are strengthening the central level. It is thus not included in the denominator for this indicator.
South Sudan	N/A	South Sudan has not been selected to execute EUV surveys by PMI Malaria Operational Plans.
Tanzania	Yes	Tanzania has been carrying out the End-Use Verification (EUV) survey since January 2009. During the reporting period, Tanzania designed a new PMP and EUV Survey for rollout in Zanzibar.
Zambia	Yes	Zambia has been carrying out the End-Use activity quarterly since November 2009. The results of this activity provided a quick “snapshot” of product availability and malaria case management at the facility level. In July 2014, Zambia held a workshop to re-visit the EUV exercise in line with newer PMI recommendations. The objective was to make the results more nationally representative and the findings more helpful to decision makers. This involved a review of the methodology including sampling criteria, the indicators and tool used. EUV activity schedule has been synchronized to take place at the same time in all 10 provinces; the last activity took place in September 2014. Results will be shared with NMCC to help develop interventions to improve malaria case management in the country where necessary.
Zimbabwe	Yes	Zimbabwe has been carrying out End-use activity quarterly since January 2012.

INDICATOR 9: Functioning Coordination Committee: percentage of countries that have a logistics coordination mechanism in place that includes participation of NMCP and CMS (or their equivalents), with a meeting that takes place at a specifically appointed time (e.g., during a reporting quarter)

Country	Functioning Coordination Committee	Note
Burkina Faso	Yes	In Burkina, there is a malaria commodities coordination body (ACT Committee) led by the Director General of the Pharmacy Department. During this fiscal year, the Committee has met every two months and as often as ACT issues arise. ACT and other malaria commodity logistics issues are presented and discussed during the meetings and recommendations made to address them. The USAID   DELIVER PROJECT provides technical and financial support to the ACT Committee to ensure donor and government coordination around malaria commodity supply. Central Medical Stores (CAMEG), NMCP, Pharmacy Department, Financial Department of the MOH, UNICEF, USAID, WHO, USAID   DELIVER PROJECT and other partners involved in malaria activities are committee members.
DRC	Yes	Since 2014 a procurement working group has met quarterly. The goal of this group is to improve coordination at central level among malaria supply chain partners in DRC. The procurement working group under NMCP leadership with DELIVER and SIAPS technical

Country	Functioning Coordination Committee	Note
		support includes GFATM principal recipients, DFID implementing partners, USAID implementing partners, and PNAM (National Essential Medicines Supply Program). This coordination mechanism allows information sharing regarding stock level between partners and redirection of malaria products as needed, as well as joint planning.
Ghana	Yes	There is a central level integrated procurement and supply chain management (PSM) coordination meeting for all the programs including Malaria. Meetings are held regularly on a quarterly basis.
Liberia	Yes	There is a Supply Chain Technical and Task Force Working Group that meets regularly. As a result of these meetings, the team developed an interim approach document that addresses the query from USAID.
Madagascar	Yes	Three functioning coordination committees related to logistics: PMI / Malaria Acquisition, Supply & Stock management committee (GAS/PMI); Roll Back Malaria / Malaria Acquisition, Supply & Stock management committee (GAS/RBM); Logistics Subcommittee / LLIN campaign National Coordination Committee (CNC)
Malawi	Yes	A decision was made to make this a monthly meeting. However this does not happen in practice as NMCP is not always available. The meeting is held as and when the NMCP is available. Otherwise, the project always pushes/lobbies to have the meeting every month.
Mozambique	Yes	The Malaria Commodities Working Group continues to meet regularly and reports quarterly on pipeline status and potential stock status issues.
Nigeria	Yes	Monthly Procurement and Supply Management meetings. There is a national level PSM sub-committee meeting comprised of the various branches of the NMEP, government agencies and other stakeholders within the RBM partnership. At the State level, the forum exists in 9 PMI-supported States and holds monthly, bi-monthly or quarterly depending on State peculiarities and consensus by stakeholders. Plans underway to replicate PSM meetings in other states in the country.
RDMA	No	Cambodia: No. At this time there is no formal logistics coordination mechanism in place. Laos: Yes. the Clinton Health Access Initiative has organized a monthly meeting of PSM specialists from the Malaria, HIV and TB programs as well as MPSC and the PR office. The name of these meetings is the PSM Technical Team Meeting. Burma: Yes. SCMS has established a National Supply Chain Task Force that meets regularly and are in the process of establishing sub groups to the Task Force for various supply chain activities to facilitate great focus on certain areas. The LMIS sub group to the National Supply Chain Task Force is the first to be developed; the SOW for the group is still being finalized
Rwanda	Yes	The malaria and other parasites disease division facilitated a stakeholder meeting on a quarterly basis in order to review ongoing malaria related programming activities and upcoming shipments.
South Sudan	Yes	The Emergency Medicines Fund Technical Working Group is a forum to share information with the CMS, MOH, USAID, and implementing partners on the status of incoming shipments, distribution to the county health departments (CHDs, and availability of storage space at

Country	Functioning Coordination Committee	Note
		the CHDs
Tanzania	Yes	The 'ACT working group' meets on a quarterly basis to discuss all areas around malaria programming, procurements, interventions. Also a managerial MOHSW and SC stakeholders group known as. Pharmaceutical Infrastructure Food Safety Working Group (PIFWG) which meets quarterly basis to discuss all the supply chain challenges and strategies to improve overall commodity availability at all the levels
Zambia	Yes	Project staff in collaboration with USAID Mission begun support towards NMCC in establishing the first ever Malaria TWG to be chaired by the NMCC Pharmacist whose main focus is supply chain strengthening through coordination of all partners involved in provision of malaria commodities and providing a permanent linkage between MOH senior management and stakeholders. The project is also permanently represented on the EMLIP Steering committee which oversees provides technical support to MOH/MCDMCH/NMCC and MSL on all EMLIP related activities. This technical subcommittee has been meeting at least twice a month on an ad-hoc basis.
Zimbabwe	Yes	MMSCT Technical and Policy Committees meet quarterly to discuss functioning of the malaria supply chain. In an attempt to streamline coordination mechanisms at technical level, MMSCT technical committee has been harmonized with the Procurement and Logistics Subcommittee to Form the Procurement and Supply Management (PSM) Committee with meetings held bi-monthly to discuss procurement and logistics issues across for all medicines and medical supplies.

INDICATOR 10: Available supply plans: Percentage of countries that have developed supply plans for PMI funded commodities

Country	Available Supply Plans	Note
Burkina Faso	Yes	There is a quantification team for malaria commodities. The quantification exercise is completed every year with a development of a coordinated supply plan integrating all the partners involved in malaria commodities funding/procurement such as USAID/PMI, UNICEF, Principal Recipients of GFATM, CAMEG, etc. A yearly supply plan is developed for each malaria commodity. The updated supply plan is always presented and discussed at the ACT Committee meeting for validation in presence of all donors involved in funding malaria commodities.
DRC	No	This is intended for future development
Ghana	Yes	A supply plan was developed during the malaria quantification in May 2013 and updated in December 2013. A new quantification has been conducted in August 2014 with an accompanying supply plan. The report is being finalized and will be disseminated accordingly.
Liberia	Yes	There is a supply plan in place. It was recently reviewed against the current stock status and updated.

Country	Available Supply Plans	Note
Madagascar	Yes	November 2013: Distribution plan for needs until end of February 2014 March 2014: Distribution plan for needs until end of June 2014 August 2014: Distribution plan for needs until end of December 2014
Malawi	Yes	A supply plan was developed following the annual quantification exercise which took place in March 2014. The supply plan took into account donor commitment to supply the country with quantified commodities. Based on the supply plan, CPIRs have since been submitted for ACTs, RDTs and ancillary supplies to be procured with PMI funding for receipt in FY2015.
Mozambique	Yes	In May 2012, a comprehensive project-organized exercise involving MOH, CMAM, NMCP, PMI, WHO and other partners, quantified antimalarials and RDT needs for the period of 2012 to 2016, and the corresponding supply plan was developed. Since then, the quantification and supply plan have been adjusted regularly as additional consumption and shipping information becomes available – most recently in conjunction with the GFATM NFM exercise in August/September 2014.
Nigeria	Yes	PPMRm is updated quarterly and there is a PipeLine database for PMI commodities. The supply plan for the PMI-procured commodities is updated quarterly and this informs the annual planning for the commodity procurements. There is a national quantification team to which the USAID   DELIVER Project provides technical support to conduct annual State-specific quantifications that are rolled up nationally. Due to the data constraints, supply plans are usually national or partner specific.
RDMA	Cambodia: No Laos: Yes Burma: No	Cambodia: No. The Cambodia CNM does not regularly prepare and monitor supply plans for procurement and delivery of PMI commodities. To date, CNM has not received any supplies from PMI. Laos: Yes; There is a supply plan for PMI funded commodities Burma: No. At this time PMI has just procured malaria commodities for the first time for the national program in Burma.
Rwanda	Yes	Yes, Rwanda has a national malaria supply plan that is prepared internally and submitted to PMI. Technical assistance though evidently needed given the output has not been accepted from partners.
South Sudan	No	No, South Sudan does not have a supply plan for PMI commodities
Tanzania	Yes	Yes, Tanzania has a national malaria supply plan. The PPMRm is updated regularly, product and funding are tracked and gaps are identified.
Zambia	Yes	Following the 2014-2016 annual forecasting and quantification exercise for malaria commodities that took place from 25 <sup>th</sup> - 29 <sup>th</sup> November 2013 and the need for 2014 – 2016 was established. A national supply plan for 2014 was developed and shared with stakeholder supporting MOH/MCDMCH/NMCC and MSL with the procurement of anti-malaria commodities. The supply plans are for ACTs, RDTs, Artesunate injection, SP and LLINs using PMI, DFID, GFATM and MOH funds. The project continues to support MOH/NMCC in ensuring that procurement plans are fulfilled.
Zimbabwe	Yes	National supply plans that inform all MOHCC and partner (including PMI & GFATM) supported procurements updated through December 2015.

INDICATOR 11: Number of technical reports or tools developed to support malaria supply chain performance

Country	Number of Technical Tools	Note
Burkina Faso	7	<ul style="list-style-type: none"> <li>- Adaptation of End-Use verification (EUV) tools to Burkina context (4)</li> <li>- EUV reports (2)</li> <li>- Quarterly report on malaria data (malaria database analysis) (1)</li> </ul>
DRC	4	<ul style="list-style-type: none"> <li>- Quantification Workshop report (1);</li> <li>- Roadmaps (2, including the LMIS Roadmap and the Provincial Medicines Committee of Province Orientale Roadmap)</li> <li>- Malaria Products Redeployment Plan among Three Regional Warehouses (1)</li> </ul>
Core		
Ghana	5	<p>Current reports and tools available include the following:</p> <ul style="list-style-type: none"> <li>- Quarterly EUV and Supportive Supervision reports</li> <li>- National Quantification Guidelines for Health Commodities (incl. Malaria)</li> <li>- The Ghana HR for SCM Assessment Report</li> <li>- National Malaria quantification Reports</li> <li>- District Pharmacists Summary Logistics Data Reporting Tool</li> </ul>
Liberia	8	<ul style="list-style-type: none"> <li>- Interim Approach Distribution Reports</li> <li>- End Use Verification and Data Verification Reports</li> <li>- Quantification Report</li> <li>- Interim Approach Data Form</li> <li>- Interim Approach Data Aggregation Tool</li> </ul>
Madagascar	3	GAS tracking tool; revised NGO/FBO supervision canvas; national gap analysis
Malawi	10	<p>No new tools were developed in this year, however, the project continued to prepare the following PSC standard reports:</p> <ul style="list-style-type: none"> <li>- PSC Monthly stock status report</li> <li>- Malaria commodities monthly distribution plan</li> <li>- Malaria commodities follow up distribution report (every two days during the delivery process)</li> <li>- Proof of Delivery (POD)</li> <li>- POD reconciliation report</li> <li>- Storage monitoring (internal only)</li> <li>- Financial reports to GFATM and USAID/Malawi</li> </ul> <p>The project also continued to prepare a monthly stock status report for the MOH/HTSS, RHU and NMCP, which includes a pipeline projection using both GFATM and PMI procurement plans</p> <p>Other reports that were prepared include:</p> <ul style="list-style-type: none"> <li>- 2014 National Quantification report</li> <li>- EUV reports</li> <li>- Integrated Supportive Supervision &amp; Peer Mentorship (ISSPM) reports</li> </ul>

Country	Number of Technical Tools	Note
Mozambique	2	Annual report ( <i>Relatório Anual</i> ), quarterly EUV reports, report on first year of NMCP Supervision/End Use (2012) during which all 11 provinces were visited.
Nigeria	6	<ul style="list-style-type: none"> <li>- EUV Report</li> <li>- Malaria Shipment Tracking tool</li> <li>- Guidelines for retrieval and distribution of Malaria Commodities in Health facilities</li> <li>- Standard Operating Procedures for conducting Malaria Review Meetings</li> <li>- Standard Operating Procedures for PSM Coordination Group in States</li> <li>- SOP and Checklist for Monitoring and Supportive Supervisory visit in State, LGA and Health Facilities</li> </ul>
RDMA	1	<p>Cambodia: None</p> <p>Laos: Yes. Major revision of the LMIS forms for all health delivery points.</p> <p>Burma: None</p>
Rwanda	3	<p>Quantification report</p> <p>Supply Chain Cost Management Tool</p> <p>Performance Management Plan for the Rwanda National Pharmaceutical Supply Chain Strategic Plan, 2014 to 2019</p>
South Sudan	3	Excel-based warehouse tracker, Warehousing and Distribution SOPs
Tanzania	5	ACT Monitoring Reports (2), Quantification Review, End Use Verification Reports (4), Pharmaceutical Sector Action Plan, Zanzibar Supply Chain Action Plan
Zambia	4	Tools: SCMgr, Pipeline, eLMIS and Magpi. Reports: National gap analysis, End Use verification, forecasting and quantification reports.
Zimbabwe	3	Three quarterly malaria end-use verification reports compiled and disseminated to malaria stakeholders including MOHCC NMCP and PMI. The fourth EUV is ongoing (06-10 October).

# Appendix G. Environmental Monitoring and Mitigation Plan (EMMP)

List each Mitigation Measure from column 3 in the EMMP Mitigation Plan (EMMP Part 2 of 3)	Indicator	Status	List any outstanding issues relating to required conditions	Remarks
In cases where the project's role is limited to procurement and delivery to the port of entry, environmental considerations related to the generation and disposal of medical waste will be within the scope of the USAID Mission rather than the Bureau for Global Health. In such instances, the project will seek confirmation of local USAID Mission IEE on file	1. Documented verification of Mission IEE on file	Complete	None	
Consignees for all pharmaceutical drugs and other public health commodities procured under this funding will be advised to store the product according to the information provided on the manufacturer's MSDS	2. Percentage of orders that included product-specific information documenting disposal requirements	100%	None	
Any grants or monetary transfers of USAID funds (e.g., subgrants) to support TO7 procurement, storage, management and disposal activities will incorporate provisions that the activities to be undertaken will comply with the environmental determinations and recommendations of the PIEE	3. Number of instances when DELIVER TO7 has been requested to provide guidelines or training.	0		
If disposal of any pharmaceutical drugs under project control is required, due to expiration date or any other	4. Percentage of disposed products under project control	100%	None	

reason, the project will first pursue the preferred method of disposal of returning the product to the manufacturer. If this is not possible, the project will follow the guidelines in the WHO document <i>Guidelines for Safe Disposal of Unwanted Pharmaceuticals During and After Emergencies</i>	returned to supplier or dealt with according to WHO guidelines			
The project will adhere to WHOPES recommendations and established QA/QC policies when procuring LLINs <sup>1</sup> . If there is a change or addition to the class of insecticides (currently pyrethroids) acceptable for use with nets, the project EMMP will be adapted to respond to any changes necessary from the PIEE.	5. Percentage of LLIN shipments with pre-shipment test reports available	100%	None	
In countries that required that LLINs are registered, all nets procured through TO7 will be registered in the country in which the nets are distributed.	6. Percentage of LLINS procured that are registered in accordance with country policies (if required by the country)	100%	None	
The project will work with	7. Recorded instances	2		Burkina Faso, Angola,

<sup>1</sup> This year the project was asked to update the EMMP to ensure that insecticide treated hammocks were included in the LLIN-specific indicators.

<p>manufacturers to ensure appropriate BCC information concerning proper use and disposal of LLINs will be included when nets are provided, including flyers or other information for individuals during distribution campaigns.</p>	<p>of assistance provided for development/distribution of BCC materials</p>			
<p>The project will adhere to the recommendations identified in the Programmatic Environmental Assessment for Malaria Vector control, dated January 2007, for:</p> <ul style="list-style-type: none"> <li>○ Procurement</li> <li>○ Storage</li> <li>○ Inventory Control</li> <li>○ Use</li> <li>○ Waste Disposal</li> </ul>	<p>8. Completion of EMMP Report on a semi-annual and annual basis</p>	<p>Complete as of this annual report for FY2014</p>	<p>None</p>	

# Appendix H. Performance Monitoring Plan (PMP)

USAID | DELIVER PROJECT Task Order Malaria  
Performance Monitoring Plan

Outcome	Indicators	Numerator / Denominator	Source	Frequency	Comments	Measures project performance	Measures factors beyond project control
<b>Objective 1. Improve and expand USAID's provision of malaria commodities to programs (50-60 percent LOE)</b>							
<b>Direct procurement services</b>							
Monthly procurement scorecard implemented	Monthly scorecard available which includes the following the indicators: Orders available for shipping on time; Orders shipped on time; Orders received on time; Supplier fill rates; Right quantity received; Goods arrived in right condition	Number of scorecards with 80% of the indicators available / number of months	DelPHi, Management reports	Monthly		X	
Orders shipped on time	Percentage of orders available for shipping within 10 working days of contracted date with the vendors	Number of orders available for shipping within 10 working days of contracted date with the vendor / Total number of orders placed to the vendor	DelPHi	Semi-annual		X	X
Orders received on time	Percentage of orders received by consignee countries within a month of agreed date with the mission	Number of orders received by consignee countries within a month of agreed date with the mission / Total number of orders placed by consignee countries	DelPHi	Semi-annual	The CPIR has been received and the money is available for the order	X	X
Suppliers deliver ordered commodities to satisfy contractual requirements	Supplier fill rate (contracted quantity on time) (by products)	Number of on-time delivery of the agreed upon quantity / Total number of orders placed	DelPHi	Semi-annual	Full quantity means agreed upon quantity with mission at the time of order placement		X
Respond to emergency orders as per PMI/USAID requests	Percentage of emergency orders responded to during the previous 6 months	Number of emergency orders for which a purchase order was placed / number of emergency orders	DelPHi	Semi-annual	The PMI/USAID team must formally acknowledge a request as an "emergency, " which signifies initiation of the request	X	
<b>Management information system</b>							
Availability of functioning MIS to USAID PMI staff	Percentage of time the USAID   DELIVER PROJECT website is available	Amount of time the USAID   DELIVER PROJECT website was available/Total amount of service hours	Performance Metrics Report	Monthly	For service hours see Service Level Agreement	X	
Total number of visits	Total number of visits to the USAID   DELIVER PROJECT website	N/A	Performance Metrics Report	Monthly		X	X
Number of logins	Total number of logins for the Oracle Portal	N/A	Performance Metrics Report	Monthly	Logins include MMIS and SDG websites.	X	
<b>Quality assurance and quality control</b>							
Quality assurance and quality control procedures established and implemented	Percentage of LN shipments with pre-shipment test reports available	Number of LN shipments with pre-shipment test report available / Number of LN shipments for which a pre-shipment test report should be available	QA/QC Report Cards, inspection reports, certificates of conformation	Semi-annual		X	
	Median time (in days) and range required for pre-shipment LN tests reports	N/A				X	X
	Percentage of RDT shipments with up-to-date post-shipment test reports available	Number of RDT shipments with up to date post-shipment test reports available / Number of RDT shipments	QA/QC Report Cards, RDT post-shipment test report, certificates of conformation	Semi-annual	Based on SOPs	X	
	Median time (in days) and range required for up to date post-shipment RDT test reports	N/A		Semi-annual		X	X
	Percentage of pharmaceutical shipments with pre-shipment certificates of conformance	Number of pharmaceutical shipments with pre-shipment certificates of onformance / Number of pharmaceutical shipments	QA/QC Report Cards, certificates of conformation	Semi-annual		X	X
	Median time (in days) and range required for pre-shipment pharmaceutical test reports	N/A		Semi-annual		X	X

Outcome	Indicators	Numerator / Denominator	Source	Frequency	Comments	Measures project performance	Measures factors beyond project control
<b>Objective 2: Strengthen in-country supply systems and capacity for management of malaria commodities (30-40 percent LOE)</b>							
Monitoring of in-country supply chain performance	Facility stockout rate: by product, the percentage of facilities that experienced a stockout on the day of the visit/report	In TO3 presence countries, number of facilities experiencing a stockout of a given product on the date of visit or at the time of reporting / In TO3 presence countries, the total number of facilities reporting via LMIS, or End-Use reports	LMIS, End-Use Verification reports	Semi-annual			X
	Country stockout rate: by product, the percentage of countries experiencing a stockout at the central warehouse(s) at the time of reporting	In TO3 presence countries, number of countries experiencing a stockout of a given product at the central warehouse(s) at time of reporting / In TO3 presence countries, the total number of facilities reporting data for the PPMRm	PPMRm	Semi-annual			X
	Functioning LMIS: Proportion of project-presence countries with an LMIS that routinely reports stock status from SDP level	In TO3 presence countries, number of countries with a functioning LMIS / Total number of TO3 presence countries	Country reports	Semi-annual			X
Respond to STTA needs as per mission requests	Percentage of STTA trips per Mission's or PMI   Washington ad hoc request conducted on time (within 14 days of the requested date)	Number of ad hoc STTA requests filled within 14 days of requested date/ Total number of ad hoc STTA requests	Program documents	Semi-annual	Ad hoc is outside of workplan	X	
In-country supply chain data management system developed or improved	Quantity of malaria commodities (LNs, SP tablets, ACT treatments, RDTs) distributed in country using funds obligated to USAID   DELIVER PROJECT	N/A	Management reports, Delphi3, LMIS, program records/reports	Semi-annual		X	
	Percentage of countries receiving field support TA funds reporting on supply chain performance via the End-Use Verification Activity	Number of TO3 presence countries participating in the end-use monitoring activities / TO3 presence countries that have been tasked with leading the End-Use activity	End use verification reports	Semi-annual	Countries where the project is leading PMI's end use monitoring	X	X
	Number of individuals trained on the supply chain management of malaria commodities	N/A	Activity reports	Semi-annual	Anyone who was trained other than USAID   DELIVER PROJECT staff	X	
	Percentage of countries with field support TA funds reporting central level stock levels of select malaria products in quarterly stock monitoring reports	Number of TO3 presence countries providing data for the PPMRm/Number of TO3 presence countries	Quarterly stock monitoring report	Semi-annual	Countries where the project is leading PMI's PPMRm reporting	X	
	Functioning Coordination Committee: Percentage of countries that have a logistics coordination mechanism in place that includes participation of NMCP and CMS (or their equivalents), with a meeting that takes place at a specifically appointed time (e.g. during a reporting quarter)	Number of TO3 presence countries with a functioning malaria logistics coordination committee / TO3 presence countries	Quarterly country reports	Semi-annual		X	X
	Available supply plans: Percentage of countries that have developed supply plans for PMI funded commodities	Number of TO3 presence countries that have developed supply plans for PMI-funded commodities / TO3 presence countries	Quarterly country reports	Semi-annual		X	X
	Number of technical reports or tools developed to support malaria supply chain performance	N/A	Program reports	Semi-annual		X	
<b>Objective 3: Improve global supply and availability of malaria commodities (5-7 percent LOE)</b>							
Support global and regional stakeholders/forums of SCM technical issues	Number of global, regional and country level malaria initiatives with DELIVER technical contributions	N/A	Program reports	Semi-annual		X	

# Appendix I. TO7-Funded Short Term Technical Assistance (STTA) October 1, 2013–March 31, 2014

## Task Order 7 Short Term Technical Assistance (STTA) October 1, 2013-September 30, 2014

Name	Destination	Travel Dates
Rabelahasa, Eleonore	Madagascar	10/4/13-10/19/13
Banda, Marlon	Malawi	10/4/13-11/1/13
Wolf, Katherine	Malawi	10/12/13-10/25/13
Hare, Lisa	Switzerland	10/14/13-10/19/13
Mwencha, Marasi	Switzerland	10/14/13-10/19/13
Celhay, Olivier	Thailand	10/21/13-10/22/13
Hood, Kinsy	Thailand and Burma	10/21/13-11/8/13
Warren, Chris	Thailand, Burma, Cambodia	10/21/13-11/8/13
Melendez, Sarah	Nigeria	10/28/13-11/8/13
Murphy, Sean	South Sudan	11/1/13-11/15/13
Tien, Marie	South Sudan	11/3/13-11/9/13
Amenyah, Johnnie	Nigeria	11/4/13-11/15/13
Casciato, Heather	DR Congo	11/4/13-11/22/13
Rabelahasa, Eleonore	Ghana	11/4/13-11/17/13
Mpishi, Mpinga	USA	11/5/13-11/9/13
Lama, Shyam	South Sudan	11/7/13-11/26/13
Roche, Greg	DR Congo	11/9/26-11/26/13
Ahsan, Safia	Nigeria	11/11/13-12/6/13
Horton, Kelsy	Liberia	11/11/13-11/22/13
Kruhm, Katrina	Zambia	11/14/13-11/23/13
Fabre, Bernard	Malawi	11/17/13-11/27/13
Babye, Yusef	Liberia	11/18/13-12/31/13
Hare, Lisa	Liberia	11/18/13-11/22/13
Warren, Chris	Nigeria	11/18/13-11/29/13
Moyo, Pardon	South Sudan	11/20/13-12/20/13
Durgavich, John	USA	11/27/2013
Papworth, David	Malawi	12/1/13-12/21/13
Lisulo, Peter	Zimbabwe	12/2/13-12/6/13
Roche, Greg	Zimbabwe	12/2/13-12/20/13
Printz, Naomi	Liberia	12/4/13-12/13/13
Inglis, Andrew	Ghana	12/9/13-12/20/13
Ross, Joey	Ghana	12/9/13-12/20/13
Pehe, Norbert	Burkina Faso	1/4/14-1/23/14
Warren, Chris	Angola	1/6/14-1/31/14
Roche, Greg	Zimbabwe	1/13/14-2/7/14
Ahsan, Safia	Nigeria	1/14/14-1/31/14
Abdallah, Hany	Guinea	1/20/14-2/7/14
Rabelahasa, Eleonore	Guinea	1/20/14-2/7/14
Sasita, Charles	Guinea	1/20/14-2/7/14
Moise, Imelda	Zambia	2/10/14-2/21/14
Rogers-Bloch, Quail	Nigeria	2/10/14-2/15/14
Warren, Chris	Nigeria	2/10/14-2/15/14
Ogwuche, Emmanuel	Switzerland	2/15/14-2/22/14
Warren, Chris	Switzerland	2/15/14-2/22/14
Snow, Tenly	Benin	2/16/14-3/10/14
Bowman, Brenda	Zambia	2/17/14-2/28/14
Broekhuysen, Erin	Zambia	2/17/14-2/28/14
Peltier, Rudolph	Netherlands	2/21/14-2/27/14
Kimera, Deo	USA	2/24/14-2/28/14

Chan, Ellen	Zambia	2/24/14-3/7/14
Oni, Abdulquadir	USA	2/25/14-3/7/14
Vanden Bossche, Micky	Zambia	3/1/14-3/9/14
Printz, Naomi	Nigeria	3/3/14-3/14/14
Warren, Chris	Nigeria	3/3/14-3/14/14
Roche, Greg	Zimbabwe	3/3/14-3/27/14
Hood, Kinsy	RDMA	3/4/14-3/22/14
Takang, Eric	Guinea	3/8/14-3/20/14
Wang, Angela	Liberia	3/8/14-3/20/14
Kiema, Moses	Zambia	3/10/14-3/28/14
Kigozi, Andrew	Zambia	3/10/14-3/28/14
Guy, Chris	Switzerland	3/11/2014-3/14/14
Warren, Chris	RDMA	3/24/14-4/11/14
Melendez, Sarah	Tanzania	3/24/14-4/4/14
Hood, Kinsy	Thailand, Burma, Thailand, and Cambodia	3/24/14-3/26/14, 4/2/14-4/10/14, and 4/10/14-4/11/14
Aberra Faris, Abyu; Abio, Winnier; Amoko, Stephen; Made, Isaac; Sylvester, Thomas; Befekadu, Fiker; Kiema, Moses; and Tien, Marie	Kenya	4/1/14-4/7/14
Hood, Kinsy	Laos	4/5/14-4/10/14
Warren, Chris	Laos	4/5/14-4/10/14
Wolf, Katherine	Burkina Faso	4/4/14-4/19/14
Mahadevan, Vidya	Burkina Faso	4/5/14-4/26/14
Roche, Greg	Zimbabwe	4/7/14-5/2/14
Rabelahasa, Eleonore	Guinea	4/12/14-5/2/14
Abdallah, Hany	DRC	4/14/14-4/25/14
Printz, Naomi	Liberia	4/16/14-4/29/14
Stewart, Emma	Liberia	4/16/14-4/29/14
Moyo, Pardon	USA	4/18/14-4/26/14
Mahadevan, Vidya	Burkina Faso	4/20/14-5/9/14
Hatch, Benjamin	Burkina Faso	4/20/14-5/9/14
Hood, Kinsy	Cambodia	4/28/14-4/29/14
Hare, Lisa	Burkina Faso	5/2/14-5/10/14
Allers, Claudia	Nigeria	5/2/14-5/24/14
Warren, Chris	Nigeria	5/3/14-6/1/14
Frimpong, James	Burkina Faso	5/5/14-5/9/14
Gyawa, Josephine	Burkina Faso	5/5/15-5/9/14
Shifa, Abdurahman	Tanzania	5/5/14-5/16/14
Konadu, Nana	Tanzania	5/5/14-5/16/14
Gikapa, John	USA	5/6/14-5/16/14
Babye, Yusef	USA	5/7/14-5/25/14
Efern, Iyeme	USA	5/8/14-5/16/14
Wolf, Katherine	Mozambique	5/10/14-5/23/14
Pearce, Cornelius	Ethiopia	5/11/14-5/15/14
Kamutenga, Phillip	USA	5/11/14-5/17/14
Hood, Kinsy	USA	5/11/14-5/17/14
Kiddie, Saul	USA	5/11/14-5/17/14
Ouedraogo, Yussouf	Liberia	5/12/14-5/29/14
Chiyaka, Ignatio	Ghana	5/14/14-5/28/14
Celhay, Olivier	Vietnam	5/21/14-5/24/14

Makanka, David	DRC	5/26/14-6/3/14
Takang, Eric	Zambia	6/7/14-6/19/14
Hare, Lisa	Switzerland	6/9/14-6/13/14
Wolf, Katherine	Zimbabwe	6/9/14-6/20/14
Rabelahasa, Eleonore	Mali	6/9/14-6/20/14
Peltier, Rudolph	Tanzania	6/15/14-6/20/14
Jenkins, David	Tanzania	6/15/14-6/20/14
Ramarijaona, Eric	Rwanda	6/15/14-6/27/14
Martin, Karen	Malawi	6/15/14-6/30/14
Badoo, Laud	Liberia	6/15/14-7/3/14
Snow, Tenly	Liberia	6/15/14-7/3/14
Eomba, Motomoke	Ghana	6/15/14-7/5/14
Ouedraogo, Yussouf	Ghana	6/15/14-7/5/14
Amenyah, Johnnie	Tanzania	6/16/14-6/21/14
Warren, Chris	Angola	6/20/14-6/27/14
Rabelahasa, Eleonore	Angola	6/20/14-6/27/14
Mahadevan, Vidya	Burkina Faso	6/29/14-7/12/14
Diallo, Abdourahmane	Madagascar	7/4/14-7/21/14
Pehe, Norber	Madagascar	7/4/14-7/21/14
Hood, Kinsy	RDMA	7/4/14-7/25/14
Allers, Claudia	RDMA	7/6/14-7/25/14
Warren, Chris	RDMA	7/7/14-7/25/14
Printz, Naomi	Tanzania	7/5/14-7/18/14
Lama, Shyam	South Sudan	7/7/14-7/31/14
Kilfoyle, Joseph	Burkina Faso	7/12/14-7/25/14
Wolf, Katherine	Ghana	7/13/14-7/18/14
Rogers-Bloch, Quail	Nigeria	7/14/14-7/25/14
Peacock, Kim	Ghana	7/15/15-7/31/14
Frankel, Nina	Ghana	7/15/15-7/31/14
Papworth, David	Malawi	7/15/14-8/1/14
Hazem, Nourhan	Tanzania	7/15/14-8/2/14
Waweru, Jayne	South Sudan	7/16/14-7/18/14
Sullivan, Audrey	Rwanda	7/16/14-7/23/14
Tartaglino, Berrak	Ghana	7/16/14-7/31/14
Nall, Yvette	Madagascar	7/28/14-8/15/14
Rabelahasa, Eleonore	Guinea	7/28/14-8/21/14
Chamwalira, Innocent	South Africa	8/4/14-8/22/14
Snow, Tenly	USA	8/8/2014
Rabelahasa, Eleonore	USA	8/8/2014
Amenyah, Johnnie	Ghana	8/9/14-8/23/14
Murphy, Sean	Zimbabwe	8/9/14-8/27/14
Bausell, Loren	Zambia	8/11/14-8/15/14
Antwerpen, Visser van	Nigeria	8/18/14-8/29/14
Segatore, Eduardo	Nigeria	8/20/14-8/29/14
Anez, Gloria	Malawi	8/21/14-9/19/14
Schevitz, Rebecca	Singapore	8/23/14-9/3/13
Coleman, Kate	Singapore	8/23/14-9/3/13
Horton, Kelsy	Nigeria	8/23/14-9/5/14
Golovanenko, Olga	Nigeria	8/23/14-9/5/14
Bossche, Micheline Vanden	Nigeria	8/27/14-9/19/14
Eomba, Motomoke	Tanzania	8/29/14-9/27/14
Montgomery-Rinehart	Tanzania	8/29/14-9/27/14
Pehe, Norber	Madagascar	9/5/14-10/6/14

Rabelahasa, Eleonore	Madagascar	9/5/14-10/12/14
Tien, Marie	South Sudan	9/8/14-9/20/14
Barancira, Richard	Gabon	9/9/14-9/15/14
Rwabugahy, Herbert	South Sudan	9/15/2014
Horton, Kelsy	Zambia	9/15/14-10/3/14
Wolf, Katherine	DRC and Burundi	9/20/14-10/4/14
Jamunyori, Joy	Ghana	9/28/14-10/11/14
Dubin, Scott	Liberia	9/29/14-10/18/14
Lama, Shyam	South Sudan	9/29/14-10/21/14

# Appendix J. EUV Commodities

Item	Burkina Faso	Ghana	Liberia	Malawi	Mozambique	Nigeria	Tanzania	Zambia	Zimbabwe
<u>ANTIMALARIALS</u>				<input type="checkbox"/>			<input type="checkbox"/>		
- AL 1x6 (yellow - strip of 6)		<input type="checkbox"/>							
- AL 2x6 (blue - strip of 12)		<input type="checkbox"/>							
- AL 3x6 (red - strip of 18)		<input type="checkbox"/>							
- AL 4x6 (green - strip of 24)		<input type="checkbox"/>							
- AS/AQ 3 tabs, 25/67.5 mg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- AS/AQ 3 tabs, 50/135 mg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- AS/AQ 3 tabs, 100/270 mg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- AS/AQ 6 tabs, 100/270 mg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Sulphadoxine/Pyrimethamine (SP) tablet	<input type="checkbox"/>								
- Quinine tablet	<input type="checkbox"/>								
- Quinine injection	<input type="checkbox"/>								
- Artesunate injection	<input type="checkbox"/>								
- Dihydroartemisinin-Piperquine (DHP) tab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Artemether injection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Severe Malaria Kit (U5s)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Severe Malaria Kit (Pregnant Women)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>OTHER MALARIA COMMODITIES</u>		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- LLIN (bed nets)		<input type="checkbox"/>		<input type="checkbox"/>					
- Malaria RDT test	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>					
		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>OTHER CHILD MEDICATIONS &amp; MATERIALS</u>		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>MATERNAL HEALTH MATERIALS</u>		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Item	Burkina Faso	Ghana	Liberia	Malawi	Mozambique	Nigeria	Tanzania	Zambia	Zimbabwe
- Combined oral (Microgynon) cycle	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
- Condoms (piece)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
- Condoms (female)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Depo (injectables) vial	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
- Implant Levonorgestrel 0.75mg/rod x 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Implant Etonogestrel 68 mg /rod x 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- IUDs (piece)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
- Magnesium sulfate Injection 500mg/ml, 2ml, 5ml, 10ml vials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Misoprostol 200µg Tablets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Oxytocin injection 10UI/ml	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Progestin-only (Microval / Microlut) cycle	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>HIV/AIDS</b>		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Alluvia [LPV/r 200/50]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Atripla[TDF300/FTC200/EFV600]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Combivir		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Deter HIV		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Duovir N ped [3TC30/AZT60/NVP 50]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- 'Duovir N[AZT300/3TC 150/NVP200]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Efavirenz		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- First Response test		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Lamivudine [3TC 150mg]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Nevirapine		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Oraquick test		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Stavudine		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Tenofovir [TDF 300mg]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- TLE [TDF300/3TC300/EFV 600]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Truvada[TDF300/FTC200]		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Item	Burkina Faso	Ghana	Liberia	Malawi	Mozambique	Nigeria	Tanzania	Zambia	Zimbabwe
- Unigold test		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Zidovudine		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>OTHER</u>		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Pediatric TB kit		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Benzyl Penicillin inj.		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Metronidazole tab		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>
- Clindamycin		<input type="checkbox"/>		<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>
- Doxycycline		<input type="checkbox"/>		<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>
- Microscopy slides		<input type="checkbox"/>		<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>

# Appendix K. EUV Summary Table

	BURKINA FASO	GHANA	LIBERIA	MALAWI
<b>Date of Last Implementation</b>	July 2014	July 2014	August 2014	August 2014
<b>Number of Surveys Completed</b>	2	18	2010: 2 under DELIVER 2011 - late 2013:5 (SIAPS) March 2014 - present: 2 (DELIVER)	17 (15 DELIVER, 2 SPS)
<b>Survey Frequency</b>	Quarterly	Quarterly	Quarterly	Quarterly
<b>Facility Information**</b>	~1800 facilities in the country	2460 facilities in the country	643* health facilities in country (per 2013 MoHSW facility list); 430 facilities in the five PMI-supported counties. <i>*in Montserrado County and large towns in other counties, up to a quarter of the facilities on the list had changed</i>	Approx. 650 facilities in the country
<b>Methodology</b>	Nationally representative sample over the course of year, multi-level stratified random sample (by facility type and district). 95% confidence level (p =.05), with the intention for each indicator, aggregated annually, to have a margin of error of approximately 7.5 percent.	nationally representative sample over the course of year, multi-level stratified random sample (by facility type and district). 95% confidence level (p =.05), with the intention for each indicator, aggregated annually, to have a margin of error of approximately 7.5 percent.	Because this is currently combined with the data verification activity (under the Interim Approach), this is currently limited to the five PMI counties (comprising ~70% of the population and HFs). County Depots are also included in each round along with a Multi-level stratified random sample (by facility level and county) of 10% of the sites in Montserrado and 25% of the sites in the remaining four counties each quarter.	Not designed to be nationally representative; there are constraints due to MOH. However, the sample is stratified by district and facility type (facility and hospital; CHAM and MOH). The EUV is conducted on a random sample of at least 2 facilities per district in each of the 56 districts countrywide.
<b>Number of Sites</b>	Last round visited 39 sites	Latest EUV visited 40 facilities	Latest EUV surveyed 68 facilities (63 health facilities and 5 county depots); total of 280+ facilities to be surveyed annually	Latest EUV visited 58 facilities
<b>PMI Involvement</b>	PMI/USAID activity manager informed about the activity and provided with reports.	PMI advisor informed about the activity and the selected regions for each round and provided with reports. Advisors have participated in one round of data collection.	The USAID/Mission in Liberia follows up on issues (based on results or items noted for follow-up) with both the "project" and related MOH programs especially the NMCP and SCMU.	The PMI advisor participated in field visits during 2 rounds of EUV data collection. The advisors are very interested in EUV results and contribute to follow-up discussions on issues identified.
<b>Level of Follow-up</b>	Findings are discussed at the National ACT Committee Meetings (with national and international stakeholders) and	Urgent distribution of stock to regions and SDPs following EUV findings - Identified knowledge gaps in supply chain - Influenced the selection of personnel, facilities, and regions for supply chain trainings and organized trainings- Informed the development of a Supply Chain Master Plan for the entire health sector	Urgent distributions to depots after EUV findings indicated current or imminent stockouts.	The project and stakeholders are closely monitoring stock imbalances and using the data to support the NMCP with distribution planning. NMCP is also using EUV data to continue pushing for adherence to new malaria case management guidelines. At last survey, 66% of malaria cases were diagnosed with a positive RDT.
<b>Cost of EUV</b>	up to \$12,000	\$18,000 per quarter	The last two rounds of EUV cost approximately \$17,000	\$25,000 per quarter
<b>Other organizations or institutions providing funding for EUV</b>	NMCP provides some vehicles	Costs are split between Task Orders 7 and 4 of the USAID   DELIVER PROJECT	Costs are split between the EUV and Interim Approach Data Verification budgets (both under the USAID   DELIVER PROJECT). In the next FY, TO4 will provide some funding because of the RH commodities that are included.	NMCP provides vehicles
<b>Other organizations or institutions involved in EUV implementation</b>	NMCP, FP Department, Pharmacy Departments	Stores, Supplies and Drugs Management (SSDM), NMCP, Pharmacy unit, Disease control unit, Family Health Division (FHD), National Tuberculosis Control Program (NTCP), National AIDS Control Program (NACP) and the Centre for Health Information Management(CHIM). They assist in the data collection on the field, while doing supportive supervision and OJT at the visited facilities.	MoHSW is involved in the entire process; NMCP and the Supply Chain Management Unit provide data collectors; County Pharmacists and district personnel ride along for many of the facility visits and sometimes assist in the data collection	NCMP
<b>Other products included in survey</b>	FP commodities (Male Condoms, Depo, Microgynon, Implants, Diu)	Includes malaria, ARV, TB, FP and other commodities. 40 in total.	Malaria Commodities, Essential Medicines (Amoxicillin, Diazepam, cotrimoxazole, Ferrous Folic Acid, Mebendazole, Metronidazole, ORS, Paracetamol), and FP Commodities (male condoms, Depo, Jadelle, Microgynon, Oxytocin, Magnesium Sulphate)	All malaria commodities
<b>Other Information</b>				

MOZAMBIQUE	NIGERIA	TANZANIA	ZAMBIA	ZIMBABWE
April 2014	June 2014	July 2014	September 2014	July 2014
8	4	21	14	8
Quarterly	Bi-annual	Quarterly	Quarterly	Quarterly
1262 facilities in the country	1,791 facilities across 11 PMI supported states	4468 facilities in the country	1951 facilities in the country	1409 facilities in the country
Original plan for nationally representative sample was ultimately not approved by the NMCP. Currently, a mix of random and purposeful sampling, covering all provinces over the course of the year. 2 provinces covered each quarter, with 2 districts randomly selected within each. In each district, the district warehouse is selected, plus one urban health unit, 1 rural health center, and 1 CHW/APE.	Nigeria is unique, in that the universe of facilities to be sampled are only PMI-supported facilities. The random selection is stratified by state and facility type (secondary and primary level facilities). As the number of PMI supported states has increased over time (from 8 to 11), so has the number of states (and facilities) covered by the survey.	Multi-level stratified random sample (by facility type and district), nationally representative for each quarter. 95% confidence level (p =.05), with the intention for indicators each quarter to have a margin of error of approximately 7 percent.	Sampling methodology was revised and is now designed to be nationally representative (as of September 2014). Multi-level, stratified random sample (by facility type and province; covers all provinces each quarter. Random selection of a minimum of 158 facilities per year, or approximately 40 per quarter. This methodology allows for a 95% confidence level (p=.05), with the intention for indicators, aggregated annually, to have a margin of error of 7.5%.	Multi-level, stratified random sample (by facility type and district) across all provinces over the course of four quarters. The sampling plan incorporates a district-level approach into sampling, pulling a proportional selection (proportion to the number of facilities) of random districts from each province, and randomly samples a minimum of 154 treating facilities across these districts, over the course of four quarters. This methodology allows for a 95% confidence level (p=.05), with the intention for indicators, aggregated annually, to have a margin of error of 7.5%
Latest EUV surveyed 47 facilities	Last EUV surveyed 110 facilities	Latest EUV surveyed 222 facilities	Last EUV surveyed 40 facilities	Last EUV surveyed 40 facilities
Participate in data collection, briefings at HU, District, Province and central level; provide support in supervision report for the provinces and central level; participate in supply chain trainings; and OJT during the supervision when find problems and/or deviations.	The PMI advisors receive and review EUV reports.	PMI advisors have once participated in data collection and orientation training. Quarterly, briefings take place during technical working group meetings, and reports are shared.	The PMI advisors receive and review EUV reports and recently attended a debriefing on the revised EUV strategy, which covered the revised sampling methods plus revised communications of findings and revised tool.	The PMI advisors have attended briefings on implementation of the activity and findings and have expressed in writing their appreciation for the activity and its actionable information.
Follow up training and supervision efforts have focused on issues such as managing and updating stock cards; improving physical examination, diagnostic and clinical data logging; correct use of mRDTs; and correct first-line treatment of severe malaria.	Follow up work has focused on improving record keeping, both in stock management and malaria case management, as well as providing standard stock cards & out-patient registers at facilities lacking them. Follow up has also focused on malaria diagnosis using RDTs. MAPS and TSHIP staff are involved in the data collection process and in sharing findings with local government. Reports and strategies are discussed at regular malaria stakeholder meetings.	Communication facilitated between respective district pharmacists and MSD Zones to resupply stock. Ensuring ACT commodities arriving in country are cleared on a timely basis, and are pushed down immediately upon arrival to avoid facility stock outs. MOHSW now depends on EUV commodity stock out information for its forecasts, and EUV experience resulted in revisiting the report R&R form and adding a stock out column.	The recent re-stratifying activity (August 2014) focused on making better use of EUV data, to inform follow-up supervision efforts and broader decision-making. This process was strengthened through a national workshop focused on enhancing quick communication of findings to key stakeholders (NMCC, Mission, PMI, provincial governments) and enhancing data quality.	With knowledge of stock outs, redistribution and immediate delivery of commodities to affected facilities takes place. Management level discussions regularly occur among key stakeholders regarding how to better supply facilities and manage malaria cases in the long term.
\$25 - \$30,000 per quarter	\$70,000	\$40,000 per quarter	\$29,000	\$27,500
None	None	Costs are split between Task Orders 7 and 4 of the USAID   DELIVER PROJECT	None	None
NMCP and Central de Medicamentos e Artigos Medicos (CMAM) both provide data collectors each quarter. NMCP provides supervision of the EUV.	NMCP, MAPS, TSHIP	NMCP and the Pharmaceutical Services Section (PSS) both provide MOHSW personnel on quarterly basis to collect end use data. District malaria focal persons and district pharmacists perform data collection as well.	MOH [Provincial and district medical offices] provide staff to accompany field office staff and are actively involved in data collection.	Ministry of Health Child Welfare (MOHCW) NMCP and MOHCW Directorate of Pharmacy Services, as well as Provincial Pharmacy Managers and Provincial Epidemiology and Disease Control Officers participated in EUV training and tool development; as data collectors, and in discussions of findings.
In addition to malaria commodities: Cotrimoxazole, Paracetamol, Microgynon, Microlut, Depo-Provera, IUD, male condoms	All malaria commodities	In addition to malaria commodities, 8 reproductive health commodities and 10 essential medicines	All malaria commodities	All malaria commodities



For more information, please visit [deliver.jsi.com](http://deliver.jsi.com).

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