



# USAID | DELIVER PROJECT

## Task Order 3 (Malaria):

FY2010 Annual Report

October 2009–September 2010



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FY2010 Annual Report

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### **USAID | DELIVER PROJECT, Task Order 3**

The USAID | DELIVER PROJECT, Task Order 3, is funded by the U.S. Agency for International Development (USAID) under contract no. GPO-I-03-06-00007-00, beginning April 6, 2007. Task Order 3 is implemented by John Snow, Inc., in collaboration with PATH; Crown Agents Consultancy, Inc.; Abt Associates; Fuel Logistics Group (Pty) Ltd.; UPS Supply Chain Solutions; FHI; The Manoff Group, Inc.; 3i Infotech; Center for International Health and Development (Boston University School of Public Health); and U.S. Pharmacopeia (USP). Task Order 3 supports USAID's implementation of malaria prevention and treatment programs by procuring, managing, and delivering high-quality, safe, and effective antimalarial commodities; providing on-the-ground logistics capacity, technical assistance, and pharmaceutical management expertise; and offering technical leadership to strengthen the global supply, demand, and financing of antimalarial commodities.

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### **Abstract**

This annual report documents the activities of Task Order 3 (Malaria) during FY2010 (October 1, 2009–September 30, 2010). Key sections highlight the major activities under each objective—the accomplishments, implementation issues, and proposed solutions; and the key performance objectives for the next reporting period.

Cover photo: Malaria testing in Mukuni Village, Zambia (USAID | DELIVER PROJECT).

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# Acronyms

ACT	artemisinin-based combination therapy
ALu	Coartem
AMFm	Affordable Medicines Facility–malaria
AMP	Alliance for Malaria Prevention
ANC	antenatal care
AS/AQ	artesunate/amodiaquine
ASTMH	American Society for Tropical Medicine and Hygiene
CA	collaborating agency
CCB	Change Control Board
CDC	Centers for Disease Control and Prevention
cGMP	Current Good Manufacturing Practices
CHAI	Clinton HIV/AIDS Initiative
CMAM	<i>Central de Medicamentos e Artigos Médicos</i>
CMS	central medical stores
COC	Certificate of Conformance
CPIR	Commodity Procurement Information Request
DHO	District Health Offices
EOI	Expression of Interest
EPI	Expanded Programme on Immunization
EQA	External Quality Assurance
ENRI	Ethiopian Health and Nutrition Research Institute
FIND	Foundation for Innovative Diagnostics
FY	fiscal year
GF	Global Fund
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHS	Ghana Health Service
GOSS	Government of Southern Sudan
HTSS	Health Technical Support Services
HMIS	health management information system

IDA	International Dispensary Association
ILS	Integrated Logistics System
IMCI	Integrated Management of Childhood Illness
IQC	Indefinite Quantity Contract
IRS	indoor residual spraying
IT	information technology
JSI	John Snow, Inc.
LMIS	logistics management information system
LLIN	long-lasting insecticide-treated bed net
LOE	level of effort
MCH	maternal and child health
MSD	Medical Stores Department
MIS	management information system
MMV	Medicines for Malaria Venture
MOH	Ministry of Health
MOP	Malaria Operational Plan
MSH	Management Sciences for Health
NCC	National Coordination Committee
NIR	near-infrared
NMCP	National Malaria Control Program
NGO	nongovernmental organization
NUR	National University of Rwanda
OAA	Office of Acquisition and Assistance
OJT	on-the-job training
PDF	portable document format
PSI	Population Services International
PDA	personal digital assistant
PMI	President's Malaria Initiative
PMP	Performance Monitoring Plan
POD	Proof of Delivery
PPMRm	Procurement Planning and Monitoring Report for malaria
PSB-Singapore	Singapore Productivity and Standards Board
PSM	Procurement and Supply Chain Management
PSM-WG	Procurement and Supply Chain Management Working Group



PSU	Pharmaceutical Supply Unit
QA	quality assurance
QASP	Quality Assurance Surveillance Plan
R&R	report and requisition
RBM	Roll Back Malaria
RDT	rapid diagnostic test
RFP	Request for Proposal
RFQ	Request for Quote
SAICM	Strategic Approach International of Chemicals Management
SC4CCM	Supply Chain for Community Case Management
SCMS	Supply Chain Management System
SDP	service delivery point
SKU	stockkeeping unit
SOP	standard operating procedure
SOW	scope of work
SP	sulphadoxine pyrimethamine
SPS	Strengthening Pharmaceutical Services project
STTA	short-term technical assistance
TB	tuberculosis
TBD	to be determined
TO	task order
TOM	Task Order Malaria
UNICEF	United Nations Children's Fund
UPS	United Parcel Service
USAID	U.S. Agency for International Development
USAID/W	U.S. Agency for International Development/Washington Office
USG	U.S. Government
USP	United States Pharmacopeia
VPP	Voluntary Pooled Procurement (Global Fund)
WHO	World Health Organization
WHO-WPRO	World Health Organization-Western Pacific Regional Office
ZIP	Zimbabwe Informed Push



# Executive Summary

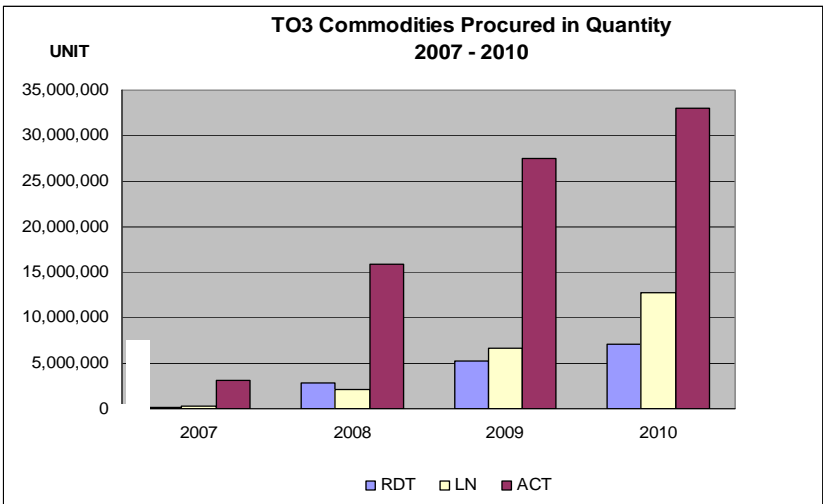
This annual report covers the period from October 1, 2009 to September 30, 2010; it describes the activities of Task Order 3 (TO3), one of three task orders under the USAID | DELIVER PROJECT Indefinite Quantity Contract with John Snow, Inc. TO3 is part of the U.S. Government’s effort to fight malaria in sub-Saharan Africa through the President’s Malaria Initiative (PMI). The initiative works in 15 African countries and is led by the U.S. Agency for International Development (USAID). TO3 has a long-term presence in eight of the PMI-focus countries, and in three USAID malaria countries.

TO3 has three main objectives, under which all its activities are organized: (1) to improve 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: 50–60 percent for Objective 1, 30–40 percent for Objective 2, and 5–7 percent for Objective 3. To achieve these objectives TO3 works in partnership with PATH, Crown Agents Consultancy, Inc.; Abt Associates; Fuel Logistics Group (Pty) Ltd.; UPS Supply Chain Solutions; FHI; The Manoff Group, Inc.; 3i Infotech; Center for International Health and Development (Boston University School of Public Health); and U.S. Pharmacopeia (USP).

## Improve and Expand the Provision of Antimalarial Commodities to Country Programs

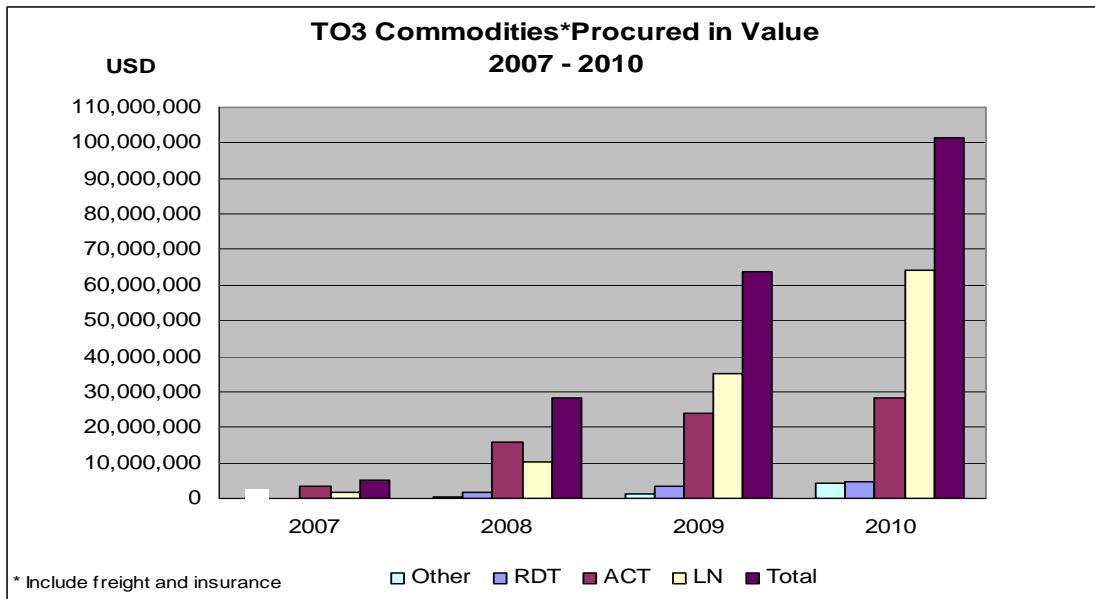
For the fourth consecutive year (see figure 1 and figure 2), the project has scaled up significantly; this has translated into the procurement and delivery of close to 12,500,000 long-lasting insecticide-treated bed nets (LLINs), 7,000,000 rapid diagnostic tests (RDTs), 33,000,000 million antimalarial drugs treatments (Coartem or artesunate/amodiaquine), to a total of 21 African countries.

**Figure 1. Commodities Procured in Quantity, 2007 to 2010**



From October 2009–September 2010, TO3 continued to increase its procurement activities by providing U.S.\$101,263,555<sup>1</sup> of antimalarial commodities, including \$ 64,008,563 for LLINs (63.2 percent of the total), \$31,634,851 for pharmaceuticals (31.2 percent), \$4,712,793 for rapid diagnostic test kits (4.7 percent), and \$907,348 for laboratory equipment (0.9 percent). During the 12-month reporting period, the value of procurements was 59 percent greater than was procured in the preceding fiscal year, continuing the trend of almost doubling the amount procured every six months. Included in procurement figures for this reporting period are 11 emergency orders from eight countries.

**Figure 2. Commodities Procured in Value, 2007 to 2010**



After monitoring system performance levels last year, we raised the target performance levels from 70 percent to 80 percent or higher. Over the last 12 months, the project met all its procurement performance indicators, even at this higher target level, achieving 85 percent or higher for all but one indicator. The ongoing freight rate analysis showed that TO3 continued to receive competitive freight rates. Despite the significant increase, both in value and in quantity of antimalarial commodities procured in 2010, the project has consistently maintained a high-quality delivery record. In 2010, 90 percent of the shipments procured by the project arrived *on time* and only one shipment of RDTs to Angola resulted in a claim. This claim was resolved within weeks after the damage occurred and USAID received full compensation from the insurer.

TO3 continued to implement its rigorous quality assurance polices, including concurrent physical and chemical testing of LLINs, lot testing of RDTs at World Health Organization (WHO)-qualified laboratories, batch testing of pharmaceuticals, and near-infrared (NIR) scanning by the Centers for Disease Control and Prevention (CDC).

<sup>1</sup> From this point forward, all dollar amounts are for U.S. dollars.

The management information system (MIS) continued to support the operations of the Supply Operations team and to provide access to up-to-date information on orders, shipments, and account status for registered users.

## **Strengthen In-Country Supply Systems and Capacity for Managing Antimalarial Commodities**

An important part of TO3's work is to help strengthen and sustain local systems that are working with antimalarial commodities; through Objective 1 activities, creating and supporting the procurement and delivery of commodities; and, with other key malaria partners, reaching those in need. The project added three new countries to its portfolio—Burkina Faso, Burundi, and Zimbabwe, increasing to 12 the number of countries where it has a long-term presence.

Some examples of achievements from the reporting period include—

- In Angola, the project supported the implementation of an alternative distribution plan that uses private sector entities to deliver directly to the provinces. This included coordinating two deliveries by charter aircraft, temporary storage by Population Services International (PSI), and provincial distribution by United Parcel Service (UPS) of 3.567 million treatments of artemisinin-based combination therapy (ACTs). All products were received into the 18 provincial Ministry of Health (MOH) depots within 10 days after the arrival of the charter aircraft.
- In Liberia, in collaboration with the NMCP and with seven local nongovernmental organizations (NGOs), the project organized and implemented a door-to-door distribution campaign (*Hang Up, Keep Up, and Follow Up* initiative) of 480,000 LLINs, in eight zones, located within Montserrado county.
- In Madagascar, the project assessed the feasibility of conducting an LLIN recycling pilot, in collaboration with the National Coordination Committee (NCC) for LLIN campaigns, Ministry of the Environment, WHO/SAICM Project, PSI, and the mission, in conjunction with the upcoming LLIN distribution campaign planned for September 2010. This private/public partnership initiative will be implemented in November 2010.
- In Mozambique, the project continued to support *Central de Medicamentos e Artigos Médicos* (CMAM) by packing 37,843 ACT kits (6,330,176 treatments) at the Maputo central warehouse and transporting the kits to the provinces. In response to pending stockouts of several presentations of artemether-lumefantrine (AL), the project secured NMCP's agreement to use artesunate/amodiaquine (AS/AQ)—the second line treatment—in the kits to the health facilities, while continuing to supply the community health worker kits with the remaining AL. The project also worked with the mission to place a \$1 million emergency order for AL.
- In Nigeria, the project facilitated the distribution of 22,674,631 LLINs in 15 states, to support the NMCP LLIN distribution campaign. It also conducted a facility-based survey on malaria supply chain performance and ACT and other malaria medicine availability. The results informed the design of a national malaria logistics system.
- In Sudan, the project assisted the Malaria Control Program, the Directorate of Pharmaceutical Services, and the Central Medical Store of Government of Southern Sudan (GOSS) MOH in

executing the clearance, receipt, and storage of 1,140,450 blisters of AS/AQ. These PMI-procured commodities arrived in Juba, southern Sudan, in July 2010.

- In Tanzania, the project undertook an intensive data collection exercise to capture facility-level data from report and requisition (R&R) forms. A total of 1,035 facility R&R forms from all nine zones were analyzed. The project used geographic information system (GIS) mapping to transform and use the data as both an advocacy and operational tool to increase commodity security and enhance system functionality. The data continues to be used to inform the quarterly malaria stock status meetings for data visibility, as well as meetings with the pharmaceutical supplies unit and the medical supplies department to address ILS strengthening initiatives.
- In Zambia, the project demonstrated that supply chain improvements can significantly increase the availability of ACTs, RDTs, and other malaria medicines through its essential medicines logistic system pilot. Availability of pediatric ACTs increased from 51 percent in the control facilities to 88 percent in the pilot facilities that used the district as a cross-dock facility, where products arrived pre-packed for facilities and the districts' role was to arrange transport to the facility level. Availability of adult ACTs also increased to more than 90 percent availability from approximately 50 percent in the control districts. Based on a World Bank analysis, if the cross-dock model was implemented nationally, child mortality due to malaria could be reduced by 37 percent, resulting in 27,000 child deaths averted by 2015.

TO3 also developed and deployed several tools and approaches to strengthen local capacity to manage and monitor antimalarial commodities.

- The project customized the EpiSurveyor software—software that enables the gathering of data via mobile phone—and piloted its use in Liberia, Tanzania, and Zambia, in conjunction with the End-Use verification exercise. The End-Use verification exercise continued quarterly in Ghana, Liberia, Tanzania, and Zambia; the results were used to immediately address stock imbalances and to design strategies to address system performance issues; the NMCPs used it to monitor and report on facility-level stock status.
- Conducted four quarters of reporting on the PPMRm. This report provides central-level stock status for PMI-focus countries and three non-focus countries—Burkina Faso, Burundi, and Southern Sudan. Reported data include months of stock available and planned shipments by supplier/funding source. The report summarized and highlighted countries that are currently stocked out, understocked, or overstocked. It also recommended ways to address critical stock issues. During the last quarter of fiscal year (FY)2010, with the support of SPS, the report was expanded to include RDTs and sulphadoxine pyrimethamine (SP), in addition to ACTs; 16 countries reported.
- To share the lessons learned and the best practices under TO3, the project published technical series briefs covering topics that included how to ensure sustained availability of ACTs using better reporting and pipeline monitoring, and how to improve monitoring at the health facility level using End-Use technology.

## **Improve Global Supply and Availability of Antimalarial Commodities**

The project participated in the Roll Back Malaria (RBM) Procurement and Supply Management working group (PSM-WG) meeting in January 2010. The meeting covered the following topics: development of a global forecast for ACTs by Clinton Health Access Initiative (CHAI) and MIT Zaragoza, LLIN scale up to reach 2010 targets, Global Fund Voluntary Pooled Procurement (VPP)

country examples and challenges faced, Good Procurement Practices (GPP) for RDTs and ACTs, update on Affordable Medicines Facility–malaria (AMFm), and existing initiatives for tracking commodities using new technologies. The meeting included one day that focused on ACT scale up, during which the project shared several existing tools for increasing visibility of antimalarial commodities at the central- and facility-level.

The project contributed to the Procurement and Supply Management of LLINs Workshop by facilitating a session and providing materials. The workshop was a forum for Global Fund (GF) principal recipients and malaria program managers to discuss LLIN procurement and supply chain management bottlenecks, brainstorm possible solutions, and share country implementation experiences. Discussion sessions included GF- and PMI-funding methodologies, WHO guidance on LLINs, technical specifications, quality assurance, and routine and campaign distribution; and, also, measuring the impact of LLINs.

At the Alliance for Malaria Prevention annual meeting, the project, in collaboration with WHO, presented “LN Pull-back, Recycling and Disposal.” This presentation focused on raising awareness that in five years, 100 million used LLINs will need to be disposed of in Africa.

In June and September 2010, the project provided technical support to the WHO Malaria Diagnostic Task Force to update the RDT Procurement Guidelines—protocols that consider local antimalarial drug resistance patterns and health service capacity in the country. This second edition of the guidelines revisits the recommendations, based on updated evidence. Most of the same presentation format from the first edition has been kept, based on feedback from the end users. A summary of the key recommendations provided in these guidelines is presented below.

## **Increase Performance Monitoring and Evaluation**

TO3 will continue to use the indicators agreed upon with PMI to measure the program’s performance and quality targets. We used the performance monitoring plan in this document; the relevant indicators for the reporting period can be found in each section.

## **Improve Implementation Issues and Solutions**

The project continues to work diligently to manage expectations and communicate effectively with our in-country partners. Some steps taken during the reporting period include conducting various sessions on the procurement process and technical assistance (TA) activities presented for USAID/Washington and the project’s country management team, presenting at GF and RBM PSM-WG workshops, and conducting country visits to better define the roles and responsibilities of all stakeholders in the procurement process. TO3 experienced vendor performance issues that resulted in a significant delay in shipment to the recipient country. In response, TO3 levied a penalty against the vendor for not meeting the terms of its contract and, subsequently, updated contract terms to improve clarity and enforceability.

A number of deliverables outlined in the FY2010 core workplan were delayed because of several causes, a number of which were not within the project’s control. TO3 has outlined several approaches to improve the timeliness of its deliverables in the FY2011 core workplan, including assigning managers to each deliverable and having quarterly review meetings with USAID to discuss progress and challenges.

A number of operational challenges, such as the continuing political unrest in Madagascar and the cumbersome importation regulations in Mozambique, arose during the reporting period; we expect

them to continue. TO3 is working closely with in-country counterparts and USAID/Washington to mitigate these difficulties and to continue to provide quality malaria commodities. Despite the varied nature of these complications, the task order has managed to significantly increase the commodities and assistance provided during the reporting period, while continuing to provide timely and responsive service to USAID missions and in-country partners.



# Description of Activities

## Objective 1: Improve and Expand USAID's Provision of Antimalarial Commodities to Country Programs

### Procurement

A principal activity of TO3 is to support PMI by procuring antimalarial commodities in response to requests placed by USAID missions; the requests are based on the needs outlined in the yearly Malaria Operational Plans (MOPs). In FY2010, we processed requests for procurement assistance from Angola, Benin, Burkina Faso, Burundi, the Democratic Republic of the Congo (DRC), Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.



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Shipment of various commodities needed for the treatment of malaria, Tanzania

### Review and Refine Procurement Systems and Procedures

To officially place an order, TO3 must receive a Commodity Procurement Information Request (CPIR) form, which is included in the procurement guide and can also be accessed on the website. The CPIR contains the relevant information needed to initiate an order, including product specifications, requested delivery dates, consignee information, and others.

Seven CPIR forms are in use, each designed to cover a specific commodity or commodity group; they also accommodate new or revised product presentations, i.e., the Coartem dispersible tablet. We are increasing assistance for our clients in-country with the completion of these forms and providing guidance for lead times, and roles and responsibilities for in-country commodity-funded activities. The forms are *live* documents that can, and are, being completed to reflect the nature of our procurement business model with PMI, enabling us to respond with flexibility and speed.

### Product Fact Sheets

To help facilitate logistics planning and the proper management of antimalarial commodities, TO3 also created product fact sheets that list drug formulations, shelf life, storage requirements, and packaging specifications (i.e., weight and dimensions of shipping boxes for each commodity listed). As with the other tools developed by TO3, the fact sheets are available on the USAID | DELIVER PROJECT website and are available to field offices, missions, and USAID-supported partners.

### Prepare Procurement Plans and Execute Procurement Requests

During FY2010, we received 68 procurement requests from 21 countries; we placed 112 subcontracts for a total value of \$101,263,555. This amount is 59 percent more than the total

amount procured in FY2009 (\$64.6 million), demonstrating the ability of the project to rapidly scale up procurement activities in response to increased PMI demand. For a complete list of commodities procured, see appendix A. Figure 3 is a map of procurement made during the reporting period.

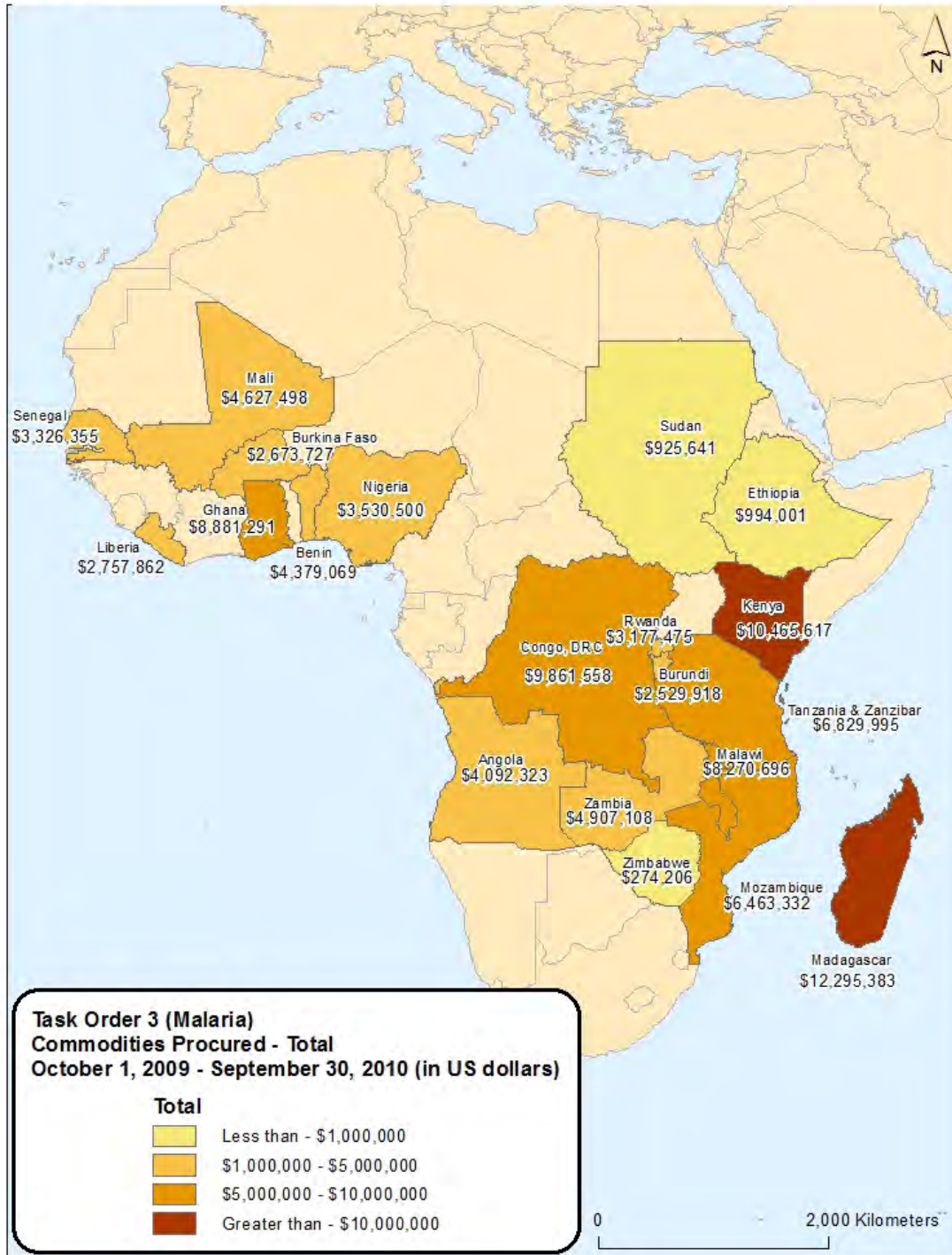
### **Sources and Suppliers of Commodities**

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

- 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.

Only vendors and manufacturers that pass internal requirements (good manufacturing practices [GMP]), product stability data, previous supply record, etc.), and are included on the PMI pre-selected list, are invited to bid or quote. (See appendix B.)

**Figure 3. Total Amount of Commodities Procured by Country in Value, October 1, 2009–September 30, 2010**



## Procurement Scorecard and Performance Monitoring Plan Indicators

During FY2010 the project continued to monitor system performance, on a monthly basis, using the scorecard to show results. Given the high level of system performance last year, we raised the target levels this year from 70 percent to 80 percent or higher, on or above target (green); from 65 percent to 79 percent, below target within defined tolerable range (yellow); and from 50 percent to 64 percent or lower, below target (red). The overall indicator results continue to be very high, with only the supplier performance indicator for one supplier below target (see table 1). This result is despite the increased level of procurement activity in FY2010. The project will continue to compile and report on monthly scorecard results and provide summaries in the semi-annual and annual reports.

**Table 1. Performance Monitoring Plan for the Procurement Process, October 1, 2009–September 30, 2010**

Support Area	Operational Area	Indicator	Status
Direct Procurement Services	Monthly system scorecard implemented	Monthly scorecard available	Completed; on-going
	Procurement adhering to USG guidelines and requirements	% of subcontracts requiring OAA approval that receive OAA approval	100%
	Orders shipped and received on time (data 10/08–2/09)	% of orders available for shipping within 10 working days of contracted date with vendors	78%
		% of orders received by countries within a month of agreed-to date with the mission	90%
	Suppliers deliver ordered commodities to satisfy contractual requirements	Supplier fill rate (contracted quantity on time) (data 10/09–2/10)	85%
		Median number of days required to contract one commodity from completed CPIR to contract signing	44 days

### Orders Shipped on Time

Of the 55 shipments counted during this period, 43 shipments, or 78 percent, shipped on time. The majority of orders that shipped late were due to the requirement for preshipment clearance. In the future, the time shipment calculation should begin after import approval is granted. Four orders shipped late because the vendor was late—one of which was a delay while waiting for one item in the shipment. One order was late due to port congestion at the destination.

## **Orders Received on Time**

Fiscal year results show an on-time delivery rate of 90 percent, exceeding the higher target set. Eight shipments out of 80 counted this period were late, two were delivered several days beyond the 30-day parameter for on-time delivery. Of the six remaining, one had complex testing methodology; one had importation exception letters that were unavailable when the goods arrived in-country; similarly, in another case, the recipient did not process the necessary import and tax documents within the expected time frame; one order was late due to vessel availability; and the last was due to delay in confirming of specifications by the mission.

## **Supplier Fill Rate**

For supplier performance, 77 of 91, or 85 percent, of supplier orders were within the parameters for fill rate. Of the 14 orders not fully received on time, two were made available a few days beyond the defined parameter, one was late due to a country request to split the shipment, one was delivered only partially on time, and three were late due to testing procedures. The vendor delivered other orders late.

## **Median Days from CPIR to Contract Signing**

The median number of days from receipt of the completed CPIR to contract signing was 44 days for FY2010, compared to 55 days in FY2009, demonstrating an extremely good turnaround time.

## **Shipment Cost Analysis**

To ensure that the USAID | DELIVER PROJECT is providing the best-value freight forwarding service to Task Order 3, we undertook a price reasonableness study (see annex D) to compare the rates charged for shipments under the task order with rates from other forwarders. Per agreement with the project task order team for malaria, we have conducted the freight reasonableness study for one shipment per month during the months when UPS conducts a malaria shipment.

At the time of the shipment, UPS provides the origin/destination pair, shipment weight/volume, and mode. Our logistics supervisor reviews the UPS rates and gathers additional spot rates from Fuel Logistics Group (Pty) Ltd. for the comparison. Rate comparison for shipments made by suppliers has been reviewed as part of the procurement process; we did not include those shipments in this study.

The FY2010 analysis covered seven air shipments/routings when UPS provided the freight services in October 2009 through September 2010 (no ocean shipments were part of the study during this period). For six out of the seven shipments, UPS was competitive. In four cases, the UPS rate per kilo was lower than the average of the quotes provided by FUEL. For one shipment, UPS had the highest rate, although the difference with the quote provided by FUEL was only \$U.S. 0.26 per kilo; because of the volatility of exchange rate markets this year, that difference may be attributable to the exchange rate at the time of shipment. In another case, the UPS rate per kilo was higher than the average of the quotes provided by FUEL; however, it was lower than the highest rate provided. Furthermore, like the above shipment, in this case, the difference with the quote provided by FUEL was very small (\$U.S. 0.09 per kilo); it may also be attributable to the exchange rate at the time of shipment. Overall cost savings to TO3 for the shipments in this study was \$29,943.

## **Freight Forwarding**

From October 2009–September 2010, the task order successfully forwarded commodities to support malaria programs to 21 countries. Shipments included treatment drugs for Angola, Benin, Burkina Faso, the Democratic Republic of Congo, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Nigeria, Senegal, Sudan, Tanzania, Zambia, and Zimbabwe; and LLINs for Benin, Burundi, the Democratic Republic of Congo, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Senegal, Uganda, and Zambia. The freight team coordinated the in-country distribution of LLINs and rectal artesunate to several districts in Benin and for ACTs in Angola.

Shipment execution tasks include freight estimate preparation, vendor door pickup, freight booking, shipment tracking, customs clearance, and final recipient delivery. The freight team will continue to update the country specific shipping instructions in ORION, which is part of the project's management information system (MIS). The project continued to manually update shipment milestones in ORION. Shipment milestones provide shipment visibility to users of the MIS website.

For cost effectiveness, avoiding shipping delays due to obtaining insurance coverage and to ensure that TO3 shipments are adequately insured, the Indefinite Quantity Contract (IQC) and TO3 management teams worked with Mason and Mason, John Snow, Inc.'s (JSI) insurance company, to obtain competitive quotes from insurance underwriters. This new insurance policy is now in effect for all TO3 shipments.

The relatively large shipment sizes and limited airline capacity continued to present challenges, but the freight team responded effectively and will continue to research strategies to ensure timely and complete deliveries. Angola continues to provide the most difficult circumstances for forwarding freight. During FY2010, for shipments to Angola, the project obtained exemptions from several Angolan government agencies, which allowed the order to bypass the customs warehouse and be delivered directly to the recipient. This model will continue to be followed for all Angola ACT shipments.

Shipment security continues to be a concern. The freight team worked with the task order management and in-country contacts to provide security escorts, when necessary.

For a complete list of commodities procured, see appendix A.

## **Quality Assurance**

### **Long-lasting Insecticide-Treated Bed Nets (LLINs)**

From October 2009–September 2010, the quality assurance team managed preshipment inspection and testing for 25 orders of LLINs from six different suppliers.

Complete test reports and a Certificate of Conformances (COC) were available for each shipment within three months of shipment (median was one day, ranging from 29 days before to 37 days after shipment). Nearly all test results and COCs were available at the time of shipping. In one case, CoCs and test results were available prior to the shipment arriving in-country.

### **Rapid Diagnostic Test Kits (RDTs)**

Between October and September, there were 13 new shipments of RDTs from five different manufacturers, including one to replace malfunctioning kits in Zanzibar. Samples were taken preshipment for testing by the WHO/FIND laboratories. Test results were available between five to 16 days after sampling (median was nine days) and all results were compliant. We received approximately 60 quarterly or six-months stability testing reports. These reports are evidence of

these products maintaining their expiration date. All results were compliant with WHO testing protocols and specifications.

## Pharmaceutical Drugs

### Coartem®

The quality assurance (QA) team reviewed manufacturer’s COCs for all batches of Coartem® procured between October and September. In November and April, FHI received retention samples from Novartis for each batch procured by the project during the preceding six months. These samples were qualitatively evaluated with near-infrared (NIR) spectroscopy as part of the routine QA check for active ingredients and lot-to-lot consistency. FHI is conducting analytical testing of these retained samples for quantitative amount of the active ingredient.



USAID | DELIVER PROJECT 2010

Cargo plane loaded with ACTs arrives in Southern Sudan.

### Other pharmaceutical drugs

The QA team arranged for sampling and preshipment testing for orders of sulfadoxine-pyrimethamine (SP), fixed-dosed artesunate/amodiaquine (FDC AS/AQ), artesunate suppositories, quinine sulfate tablets, injectable artemether, injectable quinine resorcine, injectable quinine di hcl, paracetamol, and glucose for intravenous injection. All test results were compliant with the specifications. Results from non-concurrent tests were available within 12 to 48 days after sampling. The AS/AQ orders were tested concurrently with shipment; results were available between three days before arrival and 23 days after arrival in-country.

The status of the PMP indicators for QA are provided in table 2.

**Table 2. Performance Monitoring Plan Indicators for the Quality Assurance Process, October 1, 2009–September 30, 2010**

Support Area	Operational Area	Indicator	Status
Quality assurance and quality control	Quality assurance and quality control procedures established and implemented	% of LLIN shipments with preshipment test reports available	100%
		Median time (in days) and range of days required for preshipment LLIN test reports	1 day after shipping; range was -29 to 37 days (14 to 56 days after sampling, median=20 days)
		% of RDT shipments with up-to-date quarterly test reports available	100%
		Median time (in days) and range for up-to-date preshipment RDT test reports	9 days after preshipment sampling; range was 5 to 16 days
		% of pharmaceutical shipments	100%



Support Area	Operational Area	Indicator	Status
		with preshipment certificates of conformance	
		Median time (in days) and range required for preshipment pharmaceutical test reports	26 days after sampling Range was 12 to 48 days

## Management Information System (MIS)

John Snow, Inc. (JSI), provides the MIS information to facilitate coordinated management of the supply chain, including procurement, inventory management, order management, and transportation. The MIS processes data and provides management reports to track financial accounts and funding, procure the correct amount of commodities at the right time, and track shipments through each step of the supply chain. Management information is available through web-based access; only to authorized parties, both centrally and in the field; and continuously, except during maintenance periods. The MIS team focuses primarily on day-to-day maintenance, with the team comprising the resources necessary to run the operations of the system, prepare status reports, and work on bug fixes and minor enhancements, as directed by the Change Control Board (CCB). The CCB process provides for input from USAID and other stakeholders and assesses the business impact of individual issues; these procedures ensure that the most critical problems are addressed first. The status of the MIS PMP indicators is provided in table 3.

Additionally the following MIS enhancements or fixes were implemented:

### USAID | DELIVER PROJECT Website

- **View Shipments Reports**

The *View Shipments Report* on the web were inaccurate if the shipment carried across a calendar year-end. The report would produce incomplete financials because it dropped certain prior year transactions. This has been corrected, verified, and implemented.

- **View Shipments Reports**

Added *sub-categories* to the View Shipments Reports. This will allow more detailed search criteria, such as entering *bed nets*, which produces a report of all bed net shipments—previously the user had to search by each type of bed net and manually combine the information.

- **View Shipments Report**

Implemented upgrades to the search criteria for the *View Shipments Report* on the USAID | DELIVER PROJECT website, providing more detailed sub-category and task order reporting. Specifically, these changes provide for sub-category grouping within a task order. When selecting a sub-category and a task order, or when selecting all and a task order, only the appropriate sub-categories for that task order are reported.

- **View Shipments Report**

Improvements were installed for the *View Shipments Report* that update the reporting of the unit of measure (UOM). UOMs for six products were changed to better reflect the client definition for the measure unit.



- **General Enhancements**

Originally, the request was to replace the item *short-names* with the *long-names* for all items on all web reports. After technical review and input from the USAID client, it was decided to take a different approach and change the item number to be *clickable*—showing details of the item and providing an item report detailing each item. Two additional small tickets were bundled with this change because the nature of the work is similar. These smaller changes included adding a report run date for all Excel reports, which was already in place for PDF reports, and improving the page navigation flow when logging in directly from the *My Commodities* page so the client was not forced back to the website home page.

## **ORION (SOT/Procurement Base Software)**

- **ORION 3i Infotech Base Software Patch**

A software patch was installed that corrected numerous problems encountered when placing and maintaining orders.

- **Data Correction**

Goods Received Notice (GRN) #5252, for 500,000 LLINs was incorrectly assigned one batch number. After the GRN was approved, there were actually 10 batch numbers that should have been entered—50,000 nets per batch. After the GRN was approved, the data could not be re-entered and the programmer had to manually over-ride it. The order was corrected; it now accurately reflects the batches as shipped.

- **Multi-Bill-Booking/Contract Utilization**

The project team successfully implemented phase two (Multi-Bill-Booking) of the Multi-Bill-Booking/Contract Utilization project. This phase provided the capability to apply multiple freight bills to a shipment while ensuring financial accuracy. This project was extensive, running eight months; it is now complete and provides more timely funding information. This improved funding information may prevent delays in the procurement of commodities.

**Table 3. Management Information System Performance Measurements**

<b>Support Area</b>	<b>Operational Area</b>	<b>Indicator</b>	<b>Status</b>
Management information system	Availability of USAID   DELIVER PROJECT website	Percentage of time the USAID   DELIVER PROJECT website is available	99.86 %
	Total number of visits	Total number of visits to the USAID   DELIVER PROJECT website	369,966
	Number of logins	Total number of logins to the USAID   DELIVER website	7,137

## **Objective 2: Strengthening In-Country Supply Systems**

### **Long-Term Technical Assistance**

Strengthening in-country supply systems and building greater capacity for improved management of antimalarial commodities at the local level are key to the success of Task Order 3. 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 specific activities performed in countries where the project has an office and where it provided longer-term assistance during the first FY2010 reporting period.

#### **Angola**

- Because of repeated leakage from the Angomedica stores, PMI decided that, for the foreseeable future, the logistics services of both the National Essential Drugs Program and the Angomedica warehouse in Luanda should not be used for PMI shipments. In response to this, the project developed a plan to use private sector alternatives for storing and distributing PMI-funded antimalarial commodities. The project supported the implementation of this plan for the first shipment of ACTs in February 2010. This included coordinating the delivery by charter aircraft, temporary storage by PSI, and provincial distribution by UPS of 1.7 million treatments of ACTs. All products were received into provincial MOH depots within two weeks after the charter aircraft arrived. The project successfully delivered a second shipment of Coartem and RDTs in July 2010, moving another 1.7 million treatments and 282,000 RDTs to 18 regional warehouses.

#### **Burkina Faso**

- The project opened a field office in Ouagadougou in mid-January 2010 and recruited the staff of resident logistics advisor (RLA) and finance/admin officer to support operations.
- The project conducted an assessment of the malaria products logistics system, in conjunction with teams from JHPIEGO/MCHIP and USAID/Washington, to develop a workplan and strategies to support the NMCP.
- The project provided technical assistance to the NMCP to develop LLIN campaign strategies, planning documents and necessary forms to support the upcoming LLIN distribution for universal coverage.
- In collaboration with the NMCP, the project organized a workshop: the Malaria Database and Harmonization of the Reporting Form. The workshop took place in Ouagadougou from August 10–August 12, 2010 and participants from the 13 regions, the NMCP, Plan International/Burkina, and the Health Statistics Directorate attended the workshop; the participants learned how to use the database at the district, regional, and national levels.
- The project printed and distributed 2,100 flyers on the guidelines for proper storage of health commodities for all the health facilities, districts stores, and central warehouse. These guidelines helped the stores' managers improve the storage of the health commodities in the public health system.
- The project conducted quantification and procurement planning of malaria commodities for the next five years (2011–2015). One of the objectives of the quantification exercise was to build capacity of the central level, NMCP staff, and regional pharmacists in forecasting and

quantification methodology. As a result of this exercise, 22 staff members have improved their skills in quantification and procurement planning of malaria commodities.

## Burundi

The project, through its subcontractor, PSI, began activities during this period. Major activities include—

- Cleared and stored the initial 155,000 LLINs, provided by USAID and received in December 2009.

- Developed a distribution plan and distributed the 155,000 LLINs by July 2010 to the 17 Burundian provinces, in collaboration with the NMCP at the central level and the provincial health coordinators (BPS) at the decentralized level. The allocation of LLINs to be distributed in antenatal care (ANC) and Expanded Programme on Immunization (EPI) clinics in each province is based on malaria prevalence, attendance of pregnant women and children at the clinics, and size of these two target groups, based on the 2008 census.



Trucks loaded with ACTs in Southern Sudan.

- Organized the official launch of the new USAID malaria program on March 5, in collaboration with the NMCP and the USAID mission; during this high-profile event, the U.S. Ambassador to Burundi, Pamela Slutz; USAID/East Africa's Regional Director, Larry Meserve; and Burundi's Minister of Public Health, Dr. Emmanuel Gikoro, distributed free LLINs to women and children at a health clinic. The event also included a demonstration by the PSI team of the proper installation and use of LLINs.
- In collaboration with the NMCP, the project trained 120 community volunteers; they worked with community-based organizations in 24 communes, in two provinces (Bujumbura Mairie and Bujumbura rural). The training focused on interpersonal techniques for malaria prevention and LLIN hang-up and correct use. Training sessions were also extended to 22 health technical promoters (*techniciens de promotion de la santé*), within 22 communes of three provinces (Bujumbura rural, Bubanza, and Cibitoke). Community volunteers were trained and mobilized to go door-to-door helping families hang LLINs and teaching them about the importance of correctly using bed nets. Health technical promoters were also involved because they supervise all community-based activities. Additionally, and in collaboration with the NMCP, the provincial and districts' teams, the project trained 100 members from the community-based organizations (CBO) and 20 health technical promoters within 20 communes of three provinces (Muramvya, Mwaro, and Bururi), for a total of 252 community volunteers trained, to date.
- The project conducted eight educational sessions using mobile video units in the public health centers of Makamba and Bujumbura rural, which reached approximately 1,200 pregnant women and mothers of children under five. Eight more sessions were conducted in the public health centers of Bujumbura Rural, Bubanza, and Cibitoke provinces. A total of 650 pregnant women and mothers of children under-five were reached through these activities.

- In June 2010, a second batch of 480,000 LLINs was received, cleared, transported, and stored at the central level. In September 2010, 215,000 of these nets were prepositioned at the province level and 88,000 LLINs were distributed throughout 95 public facilities.

## **Ethiopia**

The project used PMI funds to procure RDTs for seven western zones in the Oromia region. All deliveries to the seven zones were packaged for rapid redistribution to the 100 woredas.

## **Ghana**

- The project assessed the storage and distribution system in 20 districts in the Northern regions and produced an LLIN distribution plan for vulnerable populations (children under-five and pregnant women) with local partners, the MOH, and the Ghana Health Service (GHS). As a result, 630,000 LLINs were distributed during the 2010 maternal and child health (MCH) integrated campaign. In addition, the project provided training to all district and sub-district storekeepers on reporting documents, such as bin cards and waybills, to reinforce the correct inventory control and distribution practices.
- The project trained 178 commodity managers—139 were newly recruited—in the logistics MIS and the SOPs, which resulted in having more skilled managers for antimalarial commodities.
- The project conducted four PMI End-Use verification exercises in four regions. The results showed malaria commodity stockouts and improper documentation of logistics information contributed to the stockouts. Based on these findings, the project, GHS, and MOH staff were able to provide formal and on-the-job training (OJT) to support these regions.
- The project supported the GHS/MOH quantification team in quantifying malaria products and we developed procurement plans for 2009–2011. The results were shared with all partners to fill the procurement gaps of antimalarial commodities.
- The project sponsored the National Peer Review Meeting of logistics and supply chain practitioners from the MOH and the Ghana Health Service. The objective of this meeting was to review implementation of strategies for improving commodity security within the public sector.
- The project participated in a workshop of pharmaceutical sector stakeholders. The workshop was organized by the Ghana National Drugs Program and sponsored by the World Health Organization (WHO). The goal was for participants to share views and suggestions for developing a national pharmaceutical sector strategic plan.

## **Liberia**

- The project supported the new logistics system standard operating procedures (SOP) training roll out of over 400 health workers, representing 176 facilities, by actively training participants and by conducting quality checks on the SOP training exercises in Lofa, Bong, Nimba, and Grand Gedeh counties. In addition, the project facilitated the distribution of the SOP documents throughout the country, assisted with the SOP activities in Montserrado county, and disseminated the baseline report on SOP training to the partners and stakeholders.
- The implementation of End-Use verification started in Liberia in April 2010; in May, the End-Use verification was conducted in the southeast and central-south counties of Liberia. Twenty-

two facilities were randomly sampled from the entire list of health facilities in four counties: Bomi, Grand Bassa, Grand Cape Mount, and Margibi. In addition, data was collected from four county drug depots.

- The project, the NMCP, and partners finished distributing 480,000 LNs in three regional zones of Monrovia. More than 9,600 bales stored at the warehouse and additional bales from the NMCP's United Nations Children's Fund (UNICEF) warehouse, were successfully distributed to various communities around Monrovia. The activities were supervised jointly by the project and supervisors from the NMCP. The project provided technical support and training in warehouse management, supervision, and reporting to local NGOs, community health volunteers (CHVs), and NMCP staff conducting the activities. Tools designed for the exercise included warehouse management tools, issue vouchers, and distribution tick sheets.
- The project actively participated in developing the Liberian Supply Chain Master Plan, which is a 10-year strategy and detailed implementation plan to improve product availability throughout the supply chain.

## **Madagascar**

After the military coup in March 2009, the U.S. government imposed sanctions against the government of Madagascar, suspending all public sector activities, except those that alleviate humanitarian emergencies. The majority of TO3 activities in the public sector were suspended; however, activities conducted in cooperation with NGOs in Madagascar are ongoing.

- The project supported the NCC during the November and December 2009 LLIN distribution campaign by conducting supervision and monitoring visits in the 12 targeted districts. The project continues to provide technical assistance in strategizing and planning for the upcoming LLIN distribution campaign, which will target the remaining 72 districts.
- The project arranged the customs clearance and third party warehousing for 870,000 LNs, which were delivered on January 19, 2010. Two additional LLIN shipments (1,715,000 units) were also received, cleared, and stored in June and August 2010.
- To support the project's LLIN Collect and Recycling pilot activity, the project, in collaboration with WHO, organized a two-day workshop, which was co-sponsored by the Ministry of the Environment and the NMCP. This forum enabled various stakeholders, including the Ministry of the Environment, the NMCP, donors, and partners to collectively decide on the next steps for LLIN collection and recycling implementation. (This activity is primarily funded through core funds, with some field support contributions.)
- As part of the LLIN recycling pilot project, and to gain momentum in the six southern regions where the pilot will be implemented, the project staff conducted a training-of-trainers (TOT) and prepared several orientation sessions on the collection of used LLINs. At the same time, two RFPs were developed to identify and select NGOs and private sector entities that will be in charge of collecting, transporting, sorting, and compacting the old bed nets during the distribution campaign.

## **Malawi**

- The project supported the development and pilot implementation of new central medical stores (CMS) SOPs to build capacity at the regional medical stores (RMS).

- To assist the RMS in addressing the ACT stockouts reported by facilities through the logistics management information system (LMIS), the project is developing a template distribution table that we will pilot.
- The community case management (CCM) LMIS tools and the SOPs developed by the project were discussed and validated during a two-day workshop with all implementing partners, including the NMCP and the Integrated Management of Childhood Illness (IMCI) unit. The TOT on these tools and the SOPs were conducted in February 2010, with 24 district participants and three central-level participants.
- The project assisted the Health Technical Support Services (HTSS) to conduct a quantification exercise for ACTs and other antimalarial drugs, and to review last year's RDT quantification.
- The project helped the HTSS conduct logistics system monitoring and supportive supervision in the southwest zone, in 56 of 120 facilities. On the first day of the supervision week, a meeting was held with all the district health officers and representatives from the zone office to increase their awareness of the levels of logistics indicators in their respective districts.
- The project supported a two-week Supply Chain Management for Health Commodities training. Seventeen participants, who manage the logistic system at the central and district levels, were trained. Two were from the Supply Chain for Community Case Management (SC4CCM) project. To enhance the training skills, throughout the training two consultants from the home office joined two local staff as co-facilitators.
- The project continued to provide monthly reports based on the LMIS that reports national level stock status for ACTs, SP, and quinine. The project used this information to monitor the pipeline and to advocate for required procurement. Based on this data, the project worked with the mission to provide a number of emergency orders for ACTs.

## Mozambique

- In Mozambique, the project continued to support CMAM by packing 37,843 ACT kits (6,330,176 treatments) at the Maputo central warehouse and transporting them to the provinces. In response to pending stockouts of several presentations of AL, the project secured NMCP's agreement to use AS/AQ, the second line treatment, in the kits for the health facilities; while continuing to supply the community health worker kits with the remaining AL. The project also worked with the mission to place a \$1 million emergency order for AL.



Warehouse with LLINs in Madagascar.

USAID | DELIVER PROJECT 2010

- Every month, the project conducts a physical inventory of antimalarials and RDTs at the central-level warehouses and reports information quarterly for the PPMRm.
- The project, in collaboration with the Supply Chain Management System (SCMS), led the first National Quantification Meeting for antimalarial drugs, RDTs, and LLINs, with participation from the NMCP, CMAM, GF, USAID/PMI, WHO, and UNICEF. A consensus was reached regarding methodology, assumptions, and tools to be used. After completing the forecasts for all provinces for 2011–2015, the project prepared a report and present it to all partners for ratification.

- The project developed End-Use indicator tools for malaria products. The new leadership in NMCP should encourage the actual implementation of these tools over the next year.

## **Nigeria**

- The project closely collaborated with the NMCP and other technical assistance partners to plan and support the roll out of LLIN distribution in 36 states. Although planned for 2009, some campaigns spilled over into 2010. As of September 2010, 22,674,631 LLINs have been distributed in 15 states.
- As of March 31, 2010, the project conducted 165 local government area (LGA) warehouse assessments in 10 states.
- During November 2009, the project supported the training of 492 staff in the LLIN micro-positioning plan training in 10 states.
- In January 2010, the project facilitated an LSAT workshop, attended by 35 participants; an LIAT was conducted in February 2010. In Nigeria, data collection activities for the LIAT took place in nine states, across six geo-political zones. The assessment covered 103 facilities in nine state CMS; 30 LGA stores; and 64 health facilities, drawn from both the public and private sectors. These assessments helped to map the flow of antimalarial commodities and they fed into a malaria logistics system design.
- The project staff, in collaboration with state support teams, carried out warehouse assessments in Abia, Lagos, Nasarawa, Zamfara, Cross Rivers, Baylesa, Borno, Ebonyi, Edo, Enugu, Imo, Taraba, Yobe, and Katsina states; and the Federal Capital Territory. The assessments covered 276 warehouses at the state and LGA levels. The findings helped underscore the suitability of the warehouses to receive delivery of LLINs before the planned distribution campaigns. Assessment recommendations will guide state and LGA officials to implement updates in warehouses for LLIN storage.
- Eleven members of the logistics work team were trained to use the Rapid SMS technology; they were equipped to step down this training in the various states during the 2010 LLINs campaigns. Rapid SMS is currently being used in Kano, Anambra, Sokoto, Kebbi, Kaduna, and Adamawa states. Rapid SMS is a technology that has been employed to capture real-time online logistics and other data during the LLIN campaign implementation, and to complement the paper-based tool by facilitating rapid data collection, analysis, and timely decision making across levels.

## **Rwanda**

- The project recruited a malaria logistics officer, who is currently seconded to the NMCP, and is responsible for all logistics activities within the malaria unit. The project supported her to attend an ACT quantification and procurement training in the Netherlands in March 2010.
- The project conducted a physical inventory of MCH and antimalarial commodities in December 2009. The exercise covered the two central medical stores (CAMERWA and BUFMAR), 30 districts pharmacy stores, 40 general hospitals, and 85 service delivery points (SDPs).
- The project continues to support the pre-service training initiative and developed university logistics management curriculum for lecturers, including a student syllabus. As of July 2010, the training module will be taught in the pharmacy department at the university.

- The project also conducted a supply chain management training, including 10 lecturers, from the pharmacy department of the National University of Rwanda (NUR), to develop the local capacity of university lecturers.

## **Tanzania**

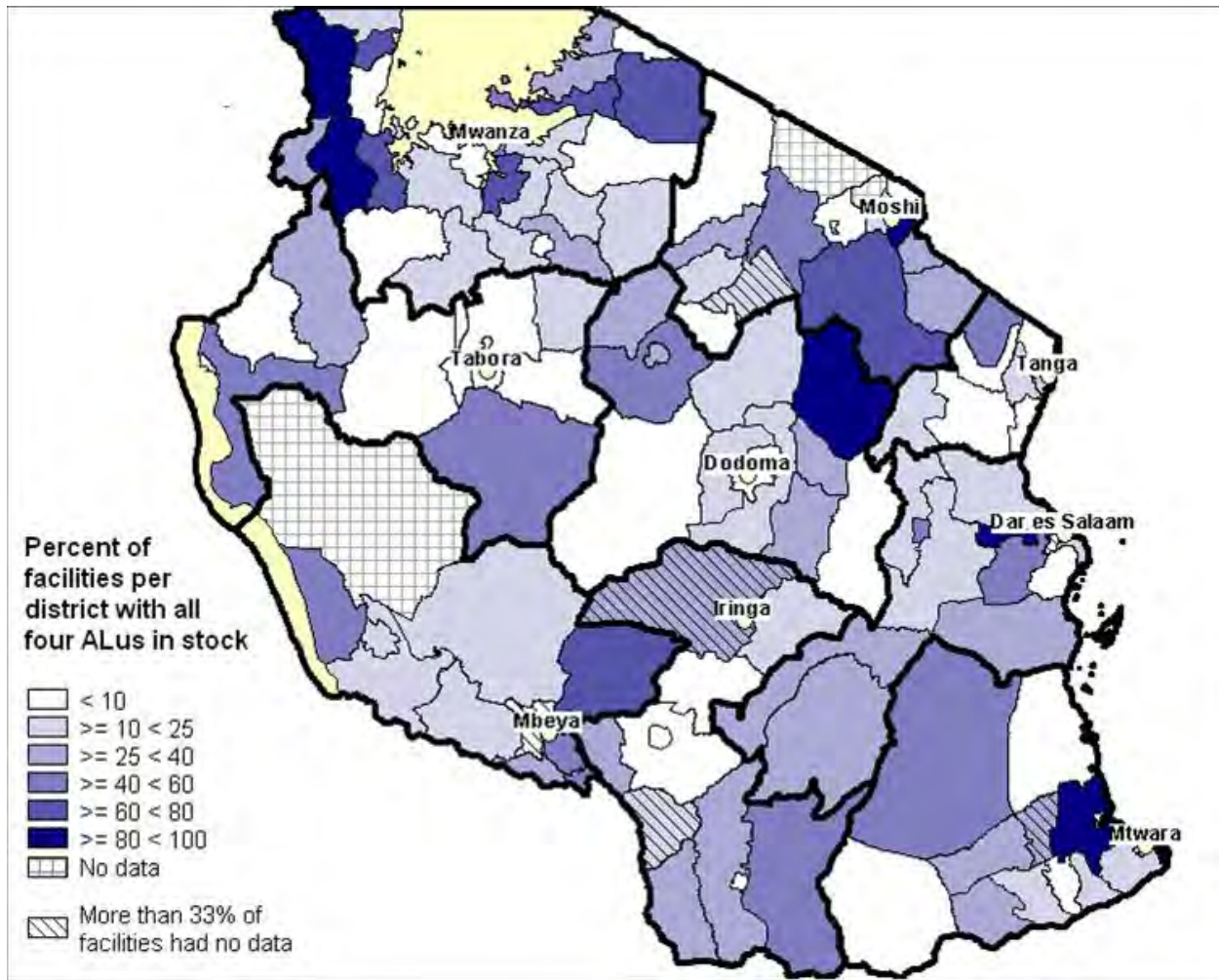
- The project successfully conducted the Zanzibar Integrated Logistics System (ILS) training in Pemba, where the pilot facilities are now switching from a kit system to an ILS to be rolled out using an iterative-phased approach to gauge and manage functionality. A technical assistance provider conducted training at CMS to train staff on the use of mSupply, a simplified warehouse management system. As a result of the training, the Zanzibar Ministry of Health has requested extended technical support; the project is responding, accordingly.
- In December 2009, project facilitators conducted the ILS roll-out training for the Morogoro Region for a total of 495 health workers from the Iringa and Morogoro zonal training centers, Pharmaceutical Supplies Unit (PSU), and JSI. This was the last ILS training, which completes the implementation of a nationwide roll out that has been occurring for several years. The entire country now uses an ILS instead of the Kit system.
- To provide training to data collection teams on how to use cell phones for routine data collection, the quarterly End-Use verification exercise was conducted in January 2010 when the country received short-term technical assistance. Data collectors from NMCP, PSU, CDC, PMI, and the USAID | DELIVER PROJECT were trained in and implemented the use of the EpiSurveyor mobile software for the data collection exercise. Cell phones were used in three additional quarters to enter data at the facility level; the data was then uploaded into a database to conduct a thorough data analysis.
- The project facilitated both internal and external meetings to begin preparations for a series of ILS strengthening activities on the mainland. Curriculums are being designed and training schedules are being coordinated for an initial facilitator training to take place in November in preparation for a subsequent larger zonal training to take place across each of the nine zones. The goal of these activities will be to clarify roles and responsibilities within the system, identify supervisory tools, and identify how ILS can be improved.
- Using the data from the data collection exercise that captured facility-level data from R&R forms, the project has started data analysis and GIS mapping efforts; this will result in a discussion on how to transform and use the data as both an advocacy and operational tool to increase commodity security and enhance system functionality (see figure 4).

The data continues to be used to inform the quarterly commodity security meetings for data visibility, as well as meetings with the pharmaceutical supplies unit and the medical supplies department on addressing ILS strengthening initiatives.

- The project supported the quantification process for ACTs to the public sector, ACTs for Accredited Drug Dispensing Outlets (ADDOs), ACTs and RDTs for UNHCR, and RDTs for Zanzibar.



**Figure 4. Percentage of Facilities per District with Stock of All Four Presentations of ALU**

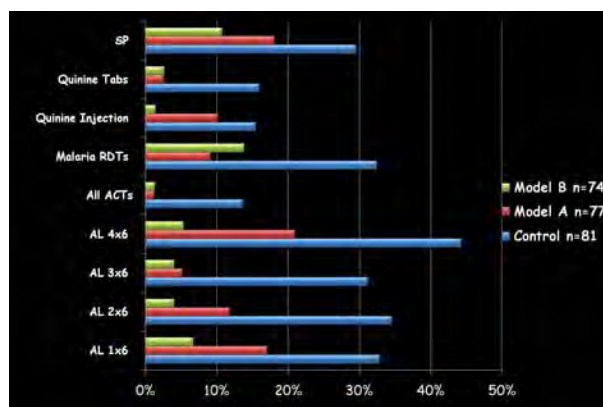


## Zambia

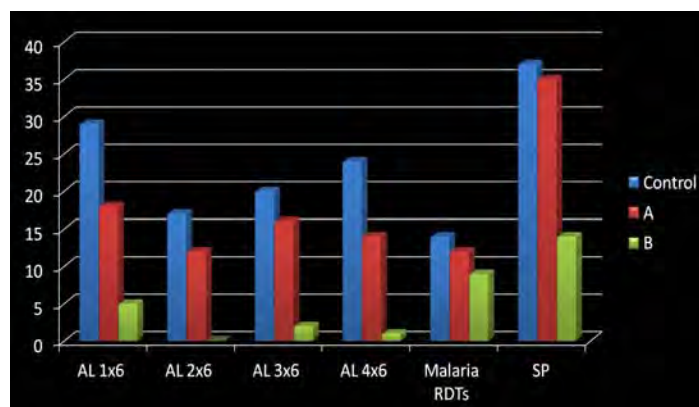
- The project collaborated with the Government of the Republic of Zambia (GRZ) and Medical Stores Limited (MSL) to pilot logistics management systems for essential drugs, including antimalarial medications and RDTs, in the 16 pilot districts and eight control districts across the country. Results of the evaluation show increased stock availability and access to ACTs, reduction in malaria commodity stockouts, and duration of the stockouts at both central and SDP levels, and reduction in the number of clinically diagnosed malaria cases due to an increase in RDTs usage and training of health staff in malaria case management (see figure 5). Based on a World Bank analysis, if the cross-dock model was implemented nationally, child mortality from malaria could be reduced by 37 percent, resulting in 27,000 child deaths averted by 2015.
- 716 individuals were trained in the supply chain management of essential drugs, including antimalarial medications and RDTs.
- The project also supported the training of 800 individuals in malaria case management (400 CHW and 400 health facility staff).

- The project reviewed and updated the five-year (2010–2015) forecast for malaria drugs and RDTs and disseminated it among stakeholders to inform malaria program planning.
- The project developed an End-Use verification tool customized for Zambia by adopting the EpiSurveyor software for malaria case management data collection, while still considering all PMI indicators.

**Figure 5. ED/Malaria Pilot: Stockouts and Days Out of Stock**



**Stockouts: Antimalarial Products: Model A vs. Model B, EM Pilot Evaluation: January 2010**



**Days of Stockouts for Antimalaria Drugs Reduced (Q4 2009=92 days)**

## Zimbabwe

- The project placed two orders to procure quinine injection and SP tablets with the home office. USAID’s Office of Acquisition and Assistance (OAA) procurement consent was granted; orders worth about \$260,000 were placed with the manufacturer.
- The project assisted MOHCW DPS and NatPharm to review the Zimbabwe Informed Push (ZIP)/PHCP trainer manual and participant workbook that follow the changes made to the ZIP/PHCP SOPs. A significant number of MOHCW, NatPharm, and partner staff were trained on the revised ZIP/PHCP SOPs. The training will prepare ZIP/PHCP staff to use the ZIP/PHCP SOPs to effectively manage the harmonized system for distribution of tuberculosis (TB), malaria, and essential medicines and medical supplies.
- The project supported the NMCP to undertake a national quantification of antimalarial treatment for the public sector. Quantimed and PipeLine databases were created for forecasting and supply planning of ACTs, quinine tablets, and injections; and SP for the national program. A report, *MOHCW NMCP Malaria Quantification Report, 2010*, documents the process and outcome.

For the first time, logistics data from ZIP was also used to quantify requirements for ACTs only. The logistics-based forecasts were significantly higher than the service statistics-based forecast (Quantimed). It was assumed that there was a general under-reporting of malaria cases in the health management information system (HMIS); therefore, logistics data was considered more representative of the situation on the ground. The supply plans and cost estimates that were generated during the exercise were submitted to UNDP/GFATM and to the USAID | DELIVER PROJECT for possible funding. The MOHCW staff was capacitated in the process.

## Short-Term Technical Assistance

In the context of TO3, STTA usually consists of one- to three-week assignments to help malaria program managers resolve issues with a well-defined program, such as improving in-country distribution, solving storage capacity problems, or carrying out quantification exercises. Most of the STTA undertaken is in support of approved workplan activities in presence and non-presence countries. Occasionally, TO3 provides ad hoc STTA to respond to an urgent PMI or USAID mission request. Over the previous 12 months, TO3 has provided STTA in Angola, Belgium, Burkina Faso, Burundi, Ghana, Kenya, Liberia, Madagascar, Malawi, Mozambique, Netherlands, Nigeria, Rwanda, Sudan, Switzerland, Tanzania, and Zambia, all in support of workplan activities. A full list of the project's STTA is provided in appendix C.



Bed net distribution in Madagascar.

## Malaria Monitoring and Tool Development

### End-Use Verification and EpiSurveyor

In FY2010, the project continued to support the ongoing implementation of the End-Use verification activity, a quarterly facility-level monitoring activity that provides quick, actionable information about the malaria supply chain, as well as a window into how malaria is being diagnosed and treated throughout the system. TO3 also provided technical assistance to the countries conducting End-Use for the first time, or adopting EpiSurveyor—software that enables the gathering of data via mobile phone—to decrease the time between data collection and reporting for this activity.

**Ghana.** Since the introduction of the End-Use activity in Ghana in June 2009, the office has implemented the activity during each successive quarter, working closely with staff from the Ghana Health Services (GHS) and the NMCP. Concrete results from this activity include the adaptation of regular monitoring efforts in the Western Regional Health Administration to incorporate elements of the End-Use survey, as well as revising the criteria for selecting health workers to receive training on inventory management.

**Liberia.** In May 2010, in Liberia, the project rolled out the End-Use activity, including EpiSurveyor. TO3 provided technical assistance to train Liberian project staff on the activity. Twenty-two health facilities were visited in four different counties; data collection was carried out by project staff, as well as personnel from NMCP, MOH M&E unit, National Drug Service (NDS), and MOH/HMIS unit. One result was immediate action taken to address widespread stockouts of ACTs in Grand Bassa county. The Liberia project office has since conducted a subsequent quarter of the End-Use verification activity without outside technical assistance; it has included MSH/SPS staff in order to facilitate the transfer of the activity in 2011.

**Tanzania.** End-Use in Tanzania has been conducted every quarter since January 2009, with TA provided by TO3 in January 2010 for the adoption of EpiSurveyor. The results are regularly shared in ACT working groups and PMI partners meetings, and have been included in the NMCP newsletter that is routinely distributed to district and regional medical officers. These findings have led to implementing interventions to address stockouts of AL. The activity enables staff from the

NMCP and the Pharmaceutical Supplies Unit (PSU) the opportunity, as data collectors, to see firsthand what is happening with the malaria supply chain at public health facilities.

**Zambia.** In November of 2009, two TA providers from the core TO3 team traveled to Zambia to train office staff on the use of EpiSurveyor, as well as to standardize routine data collection for this activity. The use of EpiSurveyor proved beneficial; it was adopted by the office to continue End-Use verification, as well as to carry out a large evaluation of the EDLS, which yielded additional information on the supply chain for antimalarial commodities in Zambia. Zambia continued to conduct End-Use verification in subsequent quarters.

In addition to the programmatic benefits mentioned above, results from these End-Use countries have been used by PMI/Washington as components for the ongoing evaluation of the initiative’s impact; it will be included in the final report for that study. Table 4 provides a summary of end use reporting by country and by quarter. In FY2011–2012, the project plans to continue to support End-Use verification in countries where it has a mandate, and also to introduce the activity in several additional countries.

**Table 4. End-Use Activity during FY2010**

<b>FY2010</b>				
	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
<b>Ghana</b>	Report submitted	Report submitted	Report submitted	Report submitted
<b>Liberia</b>	—	—	Activity introduced (End-Use + EpiSurveyor); report submitted	Report in-progress; preliminary results submitted
<b>Tanzania</b>	Report submitted	Training on EpiSurveyor; report submitted	Report submitted	Report submitted
<b>Zambia</b>	Activity introduced (End-Use + EpiSurveyor); report submitted	Report submitted	Report submitted	Report submitted

### **PPMRm**

In 2010, the Procurement Planning and Monitoring Report for Malaria (PPMRm) was expanded to include rapid diagnostic tests (RDTs) and SP. The tool now provides stock status updates at the central level, on a quarterly basis, for three antimalarial commodities—RDTs, SP, and ACTs—in 13 PMI-focus countries. Three non-focus countries—Burkina Faso, Burundi, and South Sudan—were also added to the report this year. The PPMRm will continue to provide a valuable snapshot of in-country situations and to serve as an early warning system for stock imbalances, impending shortages, expiries, and stockouts.

## Malaria Logistics Guidelines

While the fundamental elements of pharmaceutical supply chain management apply to the management of malaria commodities, there are characteristics of both the disease and the commodities that impact supply chain design and implementation, including the seasonality and changing endemism of malaria; and the short shelf life, bulkiness, heat sensitivity, high demand, and the high value of commodities used to control malaria. Based on experiences to date in strengthening malaria commodity supply chains, TO3 is developing guidelines to help NMCP program managers, CMS managers, country offices, and technical assistance providers to understand the implications of these characteristics on the supply chain. The guidelines will touch on all components of the logistics cycle, from product selection; to quantification and procurement; to storage, distribution, and inventory control; and to end use. The guidelines will support development of PSM plans, system design, and implementation; and monitoring system performance. As a first step in the guideline development, the project held a design workshop that included malaria and logistics specialists, and with the participation of the project's staff, MSH/SPS, and USAID. Building on the results of the workshop, the project is drafting the guidelines and plans to complete the product in early 2011.

Table 5 provides the status for the Objective 2 PMP indicators.

**Table 5. PMP Indicators for Technical Assistance and Monitoring**

Support Area	Operational Area	Indicator	Status
Short term technical assistance (STTA)	Respond to STTA needs as per Mission request to strengthen in-country supply chain management for anti-malarial commodities	Timely response to ad hoc TA needs: % of STTA trips per Mission's/PMI Washington ad hoc request conducted on time	100%
Long term technical assistance (LTTA)	In-country supply chain strengthened or improved	Quantity of anti-malarial commodities (LNs, SP tablets, ACT treatments, RDTs) distributed in country using funds obligated to USAID   DELIVER PROJECT	Angola: 3,567,630 ACTs, 282,000 RDTs Benin: 1,217,280 ACTs, 67,500 Artesunate suppositories, 568,000 LNs Burundi: 458,000 LNs DRC: 235,000 LNs Ghana : 955,000 LNs Kenya: 9,745,920 ACTs** Liberia: 480,000 LNs Malawi: 2,587,320 ACTs Mozambique: 6,330,176 ACTs Rwanda: 944,700 LNs**
		Percentage of countries receiving field support TA funds reporting on availability of malaria (tracer) commodities at service delivery points/LN outlets	85.7% (6 of 7*** 4 countries reporting through end use, 1 country conducted a national assessment, and 1 country reporting through LMIS data)



Support Area	Operational Area	Indicator	Status
		Percentage of countries receiving field support TA funds reporting on supply chain performance via the end use or other survey	85.7% (6 of 7*** 4 countries reporting through end use, 1 country conducted a national assessment, and 1 country reporting through LMIS data)
		Number of staff trained on the supply chain management of anti-malarial commodities	3502
		Percentage of countries with field support TA funds reporting central level ACT stock in quarterly stock monitoring report	100% (8 of 8**** countries reporting)

\* List of 12 TO3 Countries as of November 15th 2010: Non-focus countries: Burkina Faso, Burundi, Nigeria, Zimbabwe; Focus countries: Ghana, Liberia, Madagascar, Malawi, Mozambique, Rwanda, Tanzania, Zambia.

\*\* The project paid CMS a percentage to distribute commodities in Kenya and Rwanda.

\*\*\* Of the 12 TO3 countries, 5 countries were asked to lead PMI's end-use activities and thus were expected to report on supply chain performance in their countries. Non-focus countries were not asked to report this fiscal year. Rwanda does not allow the project access to this data since the ACTs are procured through Global Fund and the project is unable to access data in Madagascar due to the government sanctions, so they were removed from the calculation. In Malawi, SPS was responsible for collecting end use data, however, Malawi reports stock status through the LMIS on a monthly basis so it is included in the calculation. Nigeria conducted a national facility based assessment so was also included in calculation.

\*\*\*\* TO3 is responsible for collecting PPMRm data in 8 countries. As previously stated, the project cannot access data for Rwanda and Madagascar. Nigeria does not report on the PPMRm due to the fact that it does not hold central level stock. As a non-malaria country, Zimbabwe does not report on the PPMRm either.

## Objective 3: Improving the Global Supply of Antimalarial Commodities

### Roll Back Malaria Partnership and the Procurement and Supply Chain Management Working Group

As a member of the Roll Back Malaria (RBM) Partnership and the PSM-WG, TO3 participated in four meetings during the reporting period: Procurement and Supply Management of LLINs Workshop, in October 2009; a PSM-WG Meeting, in January 2010; a PSM-WG meeting, focused on the use of mobile phones to improve stock visibility, in May 2010; and the Workshop on Procurement and Supply Management for Malaria Products, in September 2010.

The Procurement and Supply Management of LLINs Workshop was a forum for GF principal recipients and malaria program managers to discuss LLIN procurement and supply chain management bottlenecks, to brainstorm possible solutions, and to share country implementation experiences. Discussion sessions included GF- and PMI-funding methodologies, WHO guidance on LLINs, technical specifications, quality assurance, routine and campaign distribution, and measuring the impact of LLINs.

The key points of the PSM-WG meeting included development of a global forecast for ACTs by the Clinton Health Access Initiative (CHAI) and MIT Zaragoza, LLIN scale up to reach 2010 targets, Global Fund VPP country examples and challenges faced, Good Procurement Practices (GPP) for

RDTs and ACTs, update on AMFm, and existing initiatives for tracking commodities using new technologies.

The project participated in the PSM-WG meeting on using cell phone-based initiatives to improve remote stock visibility in May 2010. TO3 shared experiences working with EpiSurveyor for End-Use monitoring and presented on mobile health innovations and the LMIS.

The workshop on procurement and supply management was jointly hosted by RBM PSM-WG and the GF. It was held in Accra, Ghana, during September 28-30. The project provided input into the design and sessions of the workshop, participated in the conference calls, and gave feedback on the meeting agenda. As a result, more focus was given to sharing country experiences. Both country- and Washington-based staff participated in the workshop; they served as session facilitators and were instrumental in guiding country groups to identify solutions to bottlenecks in the supply chain. The project made several presentations during plenary sessions to share PSM accomplishments (i.e., Zambia pilot, Nigeria LLIN distribution campaign).

## **American Society for Tropical Medicine and Hygiene (ASTMH) Annual Conference**

Task Order 3 sent participants to the ASTMH Conference in November 2009. During this conference, the project presented two posters, and facilitated and presented in one panel session.

## **Global RDT Meeting**

PMI hosted the Global RDT procurement meeting with logistical support and participation by the project; it was a forum for all partners and entities involved in the financing and procurement of RDTs. This meeting focused on the selection criteria for procurement, standardization of RDTs by manufacturers, detection rate of tests, quality assurance, and in-country roll out challenges and solutions.

## **Interagency Pharmaceutical Council**

The Interagency Pharmaceutical Council meeting was held in November 2009 in Washington, DC. TO3 participated in this meeting, which focused on international cooperation around procurement and tracking of malaria pharmaceuticals. The project also presented on TO3 tools and practices, such as the PPMRm and the End Use verification tool.

## **Alliance for Malaria Prevention Activities**

Task Order 3 sent a participant to the Alliance for Malaria Prevention (AMP) meeting in Geneva in February 2010. At the meeting, attendees discussed the progress report on 2009 LLIN mass distribution campaigns, the strategy in moving forward from targeted to universal coverage, the report on evaluation and data produced in 2009, the coordination of partner support for 2010 activities, and the challenges faced in LLIN scale up to date, and solutions moving forward.

At the meeting, the project, in collaboration with WHO, presented “LN Pull-back, Recycling and Disposal.” This presentation focused on raising awareness that, in five years, 100 million used LLINs will need to be disposed of in Africa. The goal of the project is to reduce the potential impact of expired LLINs on the environment and to develop a plan for distributing and collecting used LLINs to promote a life-cycle approach to product management. This will mutually reinforce public health goals and environmental safety.

## Bureau of Global Health

Task Order 3 participated in the Bureau of Global Health partners M&E Working Group Meeting that took place in Washington, DC, in May 2010.

Table 6 provides the status of the Objective 3 PMP indicators.

**Table 6. 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	6
	Number of technical reports or tools developed to support global and regional malaria initiatives	9



# Performance Monitoring

The project monitors its performance in two ways:

First, at the beginning of each annual workplan period, we establish a set of deliverables, including the dates of submission. This is summarized in a table that outlines all deliverables and is reported against it in the semi-annual and annual reports. TO3's COTR reviews the deliverables to ensure that they respond to USAID's monitoring needs; progress against the deliverables is discussed regularly at the TO3/USAID meetings, as are any needed revisions to the deliverables or their respective due dates. A table of agreed-upon deliverables and their status for this reporting period is provided in appendix D. A number of deliverables that were added in this fiscal year's workplan were delayed while waiting for formal approval of the workplan.

In addition to annual deliverables, TO3 uses an agreed-upon set of indicators—the Project Performance Monitoring Plan (PMP)—to monitor project performance. The PMP describes how and when the project will survey, observe, evaluate, and document performance outputs. The project began tracking these indicators in FY2009; we included the results to date in a table under each objective.

Other less formal methods for performance monitoring and management are also in place—such as weekly TO3/USAID meetings and the distribution of an updated Current Actions Table. During weekly meetings with USAID personnel and principal project staff, the TO3 team discuss all issues related to upcoming procurement 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 then made available every week to all PMI and project managers.



# Key Accomplishments

During the reporting period, Task Order 3 continued to scale up its activities, responding to increased procurement requests, several emergency shipments, and frequent requests for STTA. The team continued to standardize all the operational procedures; we quickly and efficiently dealt with challenges and successfully responded to the needs of USAID, PMI, and the country teams.

Following are a few of the highlights from the project's support of PMI:

- During the reporting period, the project procured commodities worth U.S.\$101,263,555, or an increase of 59 percent compared to what was procured during the preceding fiscal year, FY2009. During the last 12 months, the project procured antimalarial commodities for Angola, Benin, Burkina Faso, Burundi, DRC, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Sudan, Tanzania, Zambia, Zanzibar, and Zimbabwe. This included 33,073,020 treatments of malaria pharmaceuticals (Coartem and ACTs) for 12 countries; 12,695,000 LLINs for 15 countries; 7,055,410 RDTs for nine countries; and various quantities of severe malaria medicines, laboratory kits, and laboratory equipment for eight countries.
- Despite the significant increase in volume between 2009 and 2010, as in the past four years, shipments have been delivered on time, to the right party, and in good condition. Only one shipment generated a claim and USAID was fully compensated by the insurance company within a few weeks after the damage occurred. The *on-time* delivery performance indicator stayed in the 90 percent range, which demonstrates the ability of the project to quickly adapt to significant growth.
- The project has responded to emergency orders from 10 countries since project inception, of which 11 orders were placed for eight countries in this reporting period alone.
- The project procured and delivered to Madagascar its largest order of LLINs since the project began in 2007—1,120,000 units, or the equivalent of forty 40-foot containers.
- The procurement of LLINs has grown significantly during the past four years, LLINs now represent the highest value of the commodity types procured (see figure 2 ). Due to the significant amount of LLINs that are now being procured, the project has completed a study to (1) identify potential cost drivers or consistent factors that impact lead time and (2) evaluate the efficiency or the procurement strategy currently used. The results of the study validated the current procurement strategy and justified the spot quote approach.
- The project evaluated an innovative consolidation and distribution model for Angola that will improve lead time, optimize capacity, and would, potentially, reduce the transportation and distribution costs. The new model will be tested during the next distribution campaign in Angola.
- In Angola, the project supported the implementation of an alternative distribution plan that uses private sector entities to deliver directly to the provinces. This included coordinating two deliveries by charter aircraft, temporary storage by PSI, and provincial distribution by UPS of

3.567 million treatments of ACTs. All products were received into the 18 provincial MOH depots within 10 days after the charter aircraft arrived.

- In Ghana, the project supported the distribution of 630,000 LLINs during the 2010 MCH integrated campaign. The support included assessing the storage and distribution system in 20 districts in the Northern regions and producing an LLIN distribution plan for vulnerable populations (children under five years and pregnant women) with local partners, the MOH, and the Ghana Health Service (GHS). The project trained all district and sub-district storekeepers on reporting documents, such as bin cards and waybills, to reinforce proper inventory control and distribution practices.
- In Madagascar, the project assessed the feasibility of conducting an LLIN recycling pilot, in collaboration with the for NCC for LLIN campaigns, Ministry of the Environment, WHO/ SAICM Project, PSI, and the mission, in conjunction with the upcoming LLIN distribution campaign planned for November. Based on the positive results, the TO3 has started training, producing IEC materials, and contracting for the collection and transportation of the used LLINs.
- In Malawi, the project continued to strengthen the LMIS and to provide monthly stakeholders reports that summarize stock availability by district- and facility-level stockout rates for ACTs, SP, and quinine. This monitoring led to two emergency orders, funded by PMI, to ensure that ACTs were available.
- In Mozambique, the project continued to support CMAM by packing 37,843 ACT kits (6,330,176 treatments) at the Maputo central warehouse and transporting them to the provinces. In response to pending stockouts of several presentations of AL, the project secured NMCP's agreement to use AS/AQ, the second line treatment, in the kits to the health facilities; while continuing to supply the community health worker kits with the remaining AL. The project also worked with the mission to place a \$1 million emergency order for AL.
- In Nigeria, the project facilitated the distribution of 22,314,631 LLINs in 15 states, to support of the NMCP LLIN distribution campaign.
- In Tanzania, the project undertook an intensive data collection exercise to capture facility-level data from R&R forms. A total of 1,035 facility R&R forms from all nine zones were analyzed. The project used GIS mapping to transform and use the data as both an advocacy and operational tool to increase commodity security and enhance system functionality. The data continues to be used to inform the quarterly malaria stock status meetings for data visibility, as well as meetings with the pharmaceutical supplies unit and the medical supplies department on addressing ILS strengthening initiatives.
- In Zambia, the project demonstrated that supply chain improvements can significantly increase the availability of ACTs, RDTs, and other malaria medicines through its essential medicines logistic system pilot. Availability of pediatric ACTs increased from 51 percent in the control



Women and children with bed nets in Zambia .

facilities to 88 percent in the pilot facilities that used the district as a cross-dock. Availability of adult ACTs also increased to a similar level. Based on a World Bank analysis, if the cross-dock model was implemented nationally, child mortality due to malaria could be reduced by 37 percent, resulting in 27,000 child deaths averted by 2015.

- The project customized the EpiSurveyor software and piloted its use in Liberia, Tanzania, and Zambia, in conjunction with the End Use verification exercise.
- The project conducted four quarters of reporting on the PPMRm. This report provides central-level stock status for PMI-focus countries, including months of stock available and planned shipments by supplier/funding source. The report summarized and highlighted countries that are currently stocked out, understocked, or overstocked. It also recommended ways to address critical stock issues. During the fourth quarter FY2010, 16 countries reported.
- Participated in a number of international malaria meetings to address and improve the global supply of antimalarial commodities.



# Implementation Issues and Solutions

## Managing Expectations: Procurement

During the reporting period, the project continued to face challenges in managing expectations under Objective 1 activities. TO3 worked closely with clients to help them better understand the procurement process and to align their expectations to what is under the manageable influence of the project.

This included—

- helping these partners define their product specifications as early as possible in the procurement process
- explaining that TO3 does not hold existing stocks, and, therefore, there is a certain amount of lead time tied to the production and transportation of items ordered that must be considered; this also impacts the ability of TO3 to stop an order in progress, or send it to another country instead because each order is unique to the ordering country
- conveying the fact that changes in specification, delivery destination, or distribution schedules late in the procurement process, or after a contract has been placed have an impact both on price and delivery time
- explaining that inconsistency in the time taken by OAA to give approvals (varying from 24 hours to months) results in a certain amount of uncertainty in how long it will take to place an order.

The project used various methods to communicate this information, including individual communication through email and phone conversations, a presentation at a joint Global Fund/RBM PSM working group meeting, and procurement sessions for the project's country management teams and during the junior officers' short course.

## Vendor Management

During the reporting period, TO3 had a vendor that did not comply with contract terms, resulting in a significant delay in delivery to the recipient country. TO3 aggressively worked with the vendor to get the required product to the country as soon as possible; the project levied a substantial penalty for failure to perform according to contract terms. Given the volume of procurement undertaken during the past year, the fact that TO3 had only one significant issue with vendor performance indicates that the systems in place for vendor management are effective. However, the project used this incident as an opportunity to review and revise our contract terms for greater clarity and enforceability; we will use these moving forward to provide additional protection for PMI if remedial action is necessary.

## Delay in Deliverables

TO3 experienced a number of delays in producing the deliverables outlined in our deliverables table. Of the 29 deliverables included in the FY2010 core workplan, 21 met the defined due date (including those where no product was required, e.g., no new pharmaceutical manufacturers meant no updated pre-approved vendor list, or the deliverable had a due date beyond this reporting period), six were delayed and/or renegotiated; one was not produced, as it depended on a partner finalizing a tool; and one had half the total products produced (two out of four). There were several reasons for this, including lack of clarity around a number of the deliverables, lack of country-level interest or use of field support funds instead of core funds (network optimization), country-level delays (postponement of the Madagascar LLIN distribution campaign), and delays in approval of our FY2010 core workplan. To improve TO3's performance in this area, the project has assigned staff to manage each deliverable proposed in the FY2011 core workplan, proposed quarterly review meeting with USAID to discuss progress on each of the deliverables and any challenges encountered, and identified a number of products that require greater definition or country-level agreement to undertake them. These products will not be added to the deliverables table until they are better defined and USAID approves a detailed scope of work.

## Country-Level Operational Challenges

The project faced a number of operational challenges, including—

- **Madagascar:** Disruption in activities due to political upheaval and the subsequent U.S.-imposed sanctions that restrict support to the government has been a challenge.
- **Rwanda:** Building relations with the NMCP and, together, agreeing on a program of work that mutually supports the NMCP and PMI goals has been challenging. The NMCP has been unwilling to share data on all antimalarial commodities, such as ACTs, which are procured by the GF; therefore, the field office has been unable to complete reports, such as the PPMRm. The NMCP has also cancelled several attempts by the project to implement the End-Use verification tool, so the project has been unable to implement this activity to date.
- **During the reporting period,** the project has responded to a number of emergency requests. Most of the requests were because of an issue with a planned GF procurement—delays in grant signing, delays in fund dispersal, audit issues, etc. The PPMRm helps identify such issues early so action can be taken to avert stockouts.
- **Mozambique:** Long, complicated in-country clearance procedures, with communication challenges, prevented the quick delivery of an antimalarial shipment of Coartem to Maputo in September 2010. The project will work on an internal procedure to specifically address this type of in-country situation and to prevent similar situations from happening again.
- **Malawi:** Despite numerous trainings and capacity building initiatives implemented by USAID in Malawi since the project started, there have been consistent difficulties in ensuring that the antimalarial drugs procured by TO3 reach those intended. This has led USAID to consider a new distribution approach to improve the system's overall performance and results. TO3 is supporting USAID in the design and implementation of the alternative system.
- **A number of countries** ordered products from TO3 and it was later determined that delivery of those commodities would cause an overstock situation in the country. In one case, there was a lack of communication between the central medical stores, which had stock, and the NMCP,



which ordered additional stock. In another case, the government procurement agency issued a local tender for the same product that was on order with TO3. In the last case, product from two other donors arrived without NMCP being informed that they were supplying stock. The project will work with each of these countries to identify what caused these overstock situations, to implement corrective actions, and, whenever necessary, to improve their procurement and/or supply plan. The project will do so using existing strengthening in-country coordinating mechanisms or will establish them if none exists.

For each of these operational challenges, the project works with the mission, PMI, and in-country stakeholders to develop a specific response that reflects the unique operating environment within that country.



# Planned Performance Objectives for the Next Twelve Months

Based on the FY2011 workplan, during the next twelve months the malaria team will, in addition to other activities—

- Complete the ACT/RDT procurement, freight, and logistics analysis.
- Roll out EpiSurveyor in Malawi, Burkina Faso, Nigeria, and Mozambique.
- Continue to implement the End-Use verification exercises in project-led countries.
- Prepare and post malaria logistics highlights.
- Prepare the LLIN recycling pilot report.
- Finalize the malaria supply chain logistics guidelines.
- Prepare and submit quarterly PPMRm reports.
- Participate in global malaria meetings to provide a supply chain perspective.
- Update the procurement scorecard and submit with the annual report.
- Update the QA scorecard and submit it with the annual report.
- Prepare an FY2012 annual workplan and budget.
- Maintain country order plans, updating them when new funds are available or when reprogramming is undertaken.
- Analyze root causes for differences between HMIS and LMIS data.
- Increase TA support to 14 countries.



## Appendix A

# Procurement October 1, 2009 – September 30, 2010

Country	Date	Commodity	Value (\$)	Quantity
Angola	Dec-09	Coartem	3,715,104.00	3,567,360
	Jan-10	MMKs	113,619.00	30
	Apr-10	RDTs	263,600.00	380,000
Benin	Dec-09	Coartem	293,720.00	215,040
	Jan-10	MMKs	50,186.00	15
	Feb-10	LN's	3,067,200.00	568,000
	May-10	Coartem	967,963.00	1,002,240
Burkina Faso	Mar-10	RDTs	710,357.00	950,000
Burkina Faso	Mar-10	SP tablets	109,888.00	3,300,000
	Jun-10	Severe Malaria Pharmaceuticals	1,083,982.00	Various
	Jul-10	LN's	769,500.00	150,000
Burundi	Feb-10	FDC AS/AQ	48,318.00	100,000
	Mar-10	LN's	2,481,600.00	480,000
DRC	Nov-09	LN's	1,129,900.00	235,000
	Jun-10	LN's	2,583,191.00	500,000
	Jun-10	FDC AS/AQ	2,967,327.00	3,780,000
	Aug-10	FDC AS/AQ	2,549,149.00	3,780,000
	Aug-10	RDTs	439,429.00	500,000
	Sep-10	MMKs	192,562.00	60 MMK's and 15 microscopes
Ethiopia	Nov-09	MMKs	303,483.00	57 MMKs and 40 Centrifuges
	Jan-10	RDTs	679,118.00	860,000
	Aug-10	Capillary Tubes	11,400.00	400,000
Ghana	Nov-09	LN's	2,704,170.00	630,000
	Feb-10	LN's	1,574,900.00	325,000
	May-10	Severe Malaria Pharmaceuticals	443,961.00	Various
	May-10	SP tablets	320,885.00	10,000,000

<b>Country</b>	<b>Date</b>	<b>Commodity</b>	<b>Value (\$)</b>	<b>Quantity</b>
	Jun-10	LN's	3,837,375.00	830,000
Kenya	Nov-09	LN's	3,767,400.00	690,000
	Feb-10	Coartem	4,213,917.00	4,377,600
	Aug-10	LN's	2,484,300.00	455,000
Liberia	Feb-10	LN's	2,270,400.00	480,000
	Mar-10	FDC AS/AQ	487,462.00	611,000
Madagascar	Dec-09	LN's	3,654,000.00	870,000
	Mar-10	Gloves and Safety Boxes	22,833.00	Various
	Mar-10	RDTs	232,200.00	270,000
	Apr-10	LN's	8,386,350.00	1,715,000
Malawi	Oct-09	Coartem	175,272.00	276,480
	Nov-09	LN's	1,504,000.00	320,000
	Dec-09	Coartem	1,142,146.00	892,800
	Feb-10	LN's	4,112,215.00	850,000
	May-10	Coartem	1,337,063.00	1,419,480
Mali	Oct-09	MMKs	118,855.00	54
	Feb-10	Severe Malaria Pharmaceuticals	949,391.00	Various
	Apr-10	LN's	3,197,700.00	570,000
	Jun-10	RDTs	361,552.00	500,000
Mozambique	Jan-10	LN's	2,642,002.00	500,000
	Jul-10	LN's	2,555,000.00	500,000
	Aug-10	Coartem	1,266,330.00	2,077,440
Nigeria	Mar-10	LN's	3,530,500.00	614,000
Rwanda	Nov-09	LN's	3,092,360.00	388,000
	Dec-09	Lab Eqpt	85,115.00	Various
Senegal	Dec-09	Coartem	513,855.00	443,520
	May-10	LN's	2,812,500.00	625,000
Sudan	Apr-10	FDC AS/AQ	890,736.00	1,140,450
	Jul-10	RDTs	34,905.00	50,010
Tanzania	Oct-09	Coartem	2,788,285.00	3,483,360
	Apr-10	Microscopes	9,295.00	5
	May-10	Coartem	3,646,823.00	3,385,290
	Jun-10	Coartem	265,372.00	263,040
Zambia	Nov-09	RDTs	461,280.00	820,000
	Nov-09	SP tablets	53,416.00	2,000,000
	Jan-10	LN's	1,852,000.00	400,000
	May-10	RDTs	1,089,200.00	1,973,500
	Jun-10	RDTs	320,932.00	576,900
	Aug-10	Coartem	1,130,280.00	2,257,920

<b>Country</b>	<b>Date</b>	<b>Commodity</b>	<b>Value (\$)</b>	<b>Quantity</b>
Zanzibar	Jun-10	RDTs	120,220.00	175,000
Zimbabwe	Aug-10	Severe Malaria Pharmaceuticals	213,620.00	Various
	Aug-10	SP tablets	60,586.00	1,717,950





## Appendix B

# Pre-selected Vendor List

### Pre-Selected LNs:

Brand	Polyester	Polyethylene	Denier	Pesticide	Whopes
Interceptor ®	√		75 & 100	Alpha-cypermethrin	Interim
Netprotect ®		√	115	Deltamethrin	Interim
DuraNet ®		√	145+/- 5% (138 – 152)	Alpha-cypermethrin	Interim
Olyset ®		√	150	Permethrin	Full
DawaPlus ®	√		75 & 100	Deltamethrin	Interim
Permanet ® 2.0, 2.5	√		75 & 100	Deltamethrin	Full (2.0)
Permanet ® 3.0	√	√ (roof)		Deltamethrin	Interim (2.5) Interim (3.0)

### Pre-Selected Rapid Diagnostic Test Kit Manufacturers:

Manufacturer	Brand	Comments
AccessBio	CareStart ®	
ICT South Africa	Malaria Pf ®	
Inverness Medical	BinaxNOW ®	
Orchid Biomedical Systems	ParaCheck ®	
Premier Medical Corp	First Response ®	
Span Diagnostics	ParaHIT ®	
Standard Diagnostics	Bioline ®	

### Pre-Selected Pharmaceutical Manufacturers/vendors:

Manufacturer/Vendor	Brand	Comments
Novartis Pharma AG	Coartem® FDC	Artemether/Lumefantrine, 20mg/120mg
	Coartem Dispersible® FDC	Artemether/Lumefantrine, Dispersible 20mg/120mg
Sanofi Aventis/Africasoins	Winthrop® FDC	Artesunate+Amodiaquine, four dosage presentations
UNICEF Supply Divn	Various products	
IDA Foundation	Various products	
Missionpharma A/S	Various products	



## Appendix C

# TO3-Funded Short-Term Technical Assistance, October 1, 2009 – September 30, 2010

Name	Country	Travel Date	
Rebour Gilles	Angola	6/11/2010	7/9/2010
Warren Chris	Angola	5/23/2010	6/17/2010
Warren Chris	Angola	10/16/2009	10/30/2009
Warren Chris	Angola	1/7/2010	2/19/2010
Edah Parfait	Burkina Faso	10/4/2009	10/17/2009
Edah Parfait	Burkina Faso	12/14/2009	12/18/2009
Edah Parfait	Burkina Faso	1/14/2010	present
Edah Lorena Akouvi	Burkina Faso	1/14/2010	present
Edah Chiara Kelsey	Burkina Faso	1/14/2010	present
Ginchereau Paula	Burkina Faso	3/13/2010	3/24/2010
Kabenyegye-Edah Esperance	Burkina Faso	1/14/2010	present
Kagone Meba	Burkina Faso	1/25/2010	2/5/2010
Ndoye Thidiane	Burkina Faso	10/2/2009	10/16/2009
Ndoye Thidiane	Burkina Faso	6/16/2010	6/28/2010
Ndoye Thidiane	Burundi	8/26/2010	9/3/2010
Ginchereau Paula	Ghana	3/24/2010	3/27/2010
Ikwang Anne	Ghana	5/31/2010	6/8/2010
Prasad Ganesh	Ghana	3/19/2010	4/2/2010
Balleste Jordi	Kenya	10/18/2009	10/24/2009
Frost Mike	Liberia	4/26/2010	5/9/2010
Prasad Ganesh	Liberia	8/1/2010	8/31/2010
Belemvire Allison	Madagascar	11/8/2009	11/21/2009
Belemvire Allison	Madagascar	3/13/2010	4/1/2010
Rack Ralph	Madagascar	3/13/2010	4/1/2010
Ahmed Muhammad	Malawi	4/19/2010	5/14/2010
Andersson Sarah	Malawi	10/26/2009	11/8/2009

<b>Name</b>	<b>Country</b>	<b>Travel Date</b>	
Coetzee Eugene	Malawi	1/10/2010	1/16/2010
Pehe Norbert	Malawi	2/21/2010	3/19/2010
Steele Gary	Malawi	10/26/2009	11/8/2009
Brumburgh Scott	Mozambique	8/21/2010	8/31/2010
Horton Kelsy	Mozambique	7/30/2010	8/15/2010
Hudgins Tony	Mozambique	6/21/2010	7/30/2010
Hudgins Tony	Mozambique	8/21/2010	9/27/2010
Rosche Tim	Mozambique	8/23/2010	8/27/2010
Stanton John	Mozambique	3/22/2010	4/2/2010
Stanton John	Mozambique	7/30/2010	8/27/2010
Ngabo Nathalie	Netherlands	3/17/2010	3/26/2010
Byington Julia	Nigeria	1/25/2010	2/19/2010
Collins Ethan	Nigeria	1/25/2010	2/19/2010
Durgavich John	Nigeria	11/29/2009	12/22/2009
Durgavich Grace	Nigeria	1/3/2010	present
Durgavich Mary-Elizabeth	Nigeria	1/3/2010	present
Durgavich John	Nigeria	1/3/2010	present
Durgavich Anne-Elizabeth	Nigeria	1/3/2010	present
Durgavich Viginia	Nigeria	1/3/2010	present
Fabre Bernard	Nigeria	11/15/2009	present
Hare Lisa	Nigeria	2/15/2010	2/25/2010
Ness Sylvia	Nigeria	8/23/2010	9/11/2010
Stanton John	Nigeria	9/17/2010	9/24/2010
Paprocki David	Rwanda	1/19/2010	2/3/2010
Pehe Norbert	Rwanda	9/28/2010	9/30/2010
Roche Greg	Rwanda	4/23/2010	5/16/2010
Rebour Gilles	Sudan	7/5/2010	7/17/2010
Warren Chris	Sudan	6/28/2010	7/10/2010
Hare Lisa	Switzerland	1/19/2010	1/23/2010
Hare Lisa	Switzerland	5/5/2010	5/9/2010
Rack Ralph	Switzerland	2/9/2010	2/12/2010
Rebour Gilles	Switzerland		
Stannard Paul	Switzerland	10/13/2009	10/15/2009
Stannard Paul	Switzerland	9/20/2010	9/24/2010
Brown Nick	Tanzania	1/22/2010	2/13/2010
Takang Eric	Tanzania	3/27/2010	4/10/2010
Tuddenham Jennifer	Tanzania	3/12/2010	4/11/2010
Alwahti Ali	USA	6/28/2010	present
Alwahti Ayan	USA	6/28/2010	present

<b>Name</b>	<b>Country</b>	<b>Travel Date</b>	
Bruce Egbert	USA	4/11/2010	4/22/2010
Edah Parfait	USA	4/9/2010	4/25/2010
Gaye Aida	USA	10/24/2009	present
Ndahinyuka Jovith	USA	4/11/2010	4/19/2010
Ndoye Mama Diarra	USA	10/24/2009	present
Ndoye Seynabou	USA	10/24/2009	present
Ndoye Sokhna	USA	10/24/2009	present
Ndoye Basirou	USA	10/24/2009	present
Noguera Marilyn	USA	4/10/2010	4/21/2010
Noguera Marilyn	USA	6/28/2010	present
Rakotomanga Avotiana	USA	4/8/2010	4/18/2010
Rosche Tim	USA	4/10/2010	4/18/2010
Sanabria Arturo	USA	4/8/2010	4/19/2010
Waweru Jayne	USA	4/9/2010	4/18/2010
Waweru Jayne	USA	8/14/2010	9/10/2010
Frost Mike	Zambia	11/6/2009	11/25/2009
Kiema Moses	Zambia	4/30/2010	5/15/2010
Ndoye Thidiane	Zambia	11/9/2009	11/25/2009
Paprocki David	Zambia	5/26/2010	6/5/2010
Takang Eric	Zambia	3/18/2010	3/26/2010



## Appendix D

# Deliverables Status for FY10

Deliverable	Due	Status
<b>Objective I</b>		
Procurement scorecard	Reported in Semi-annual Report (May 15, 2010) and Annual Report (November 15, 2010)	Submitted on May 15, 2010 and on November 15 <sup>th</sup> , 2010
Updated list of pre-approved vendors for antimalarial commodities	RDTs: TBD	No new vendors to be added during this period as we were waiting for WHO RDT interim guidelines
	LN: TBD	No new vendors to be added during this period
	Pharmaceuticals: as new pharmaceuticals become available/WHO pre-qualified	No new manufacturers during reporting period
Develop order plans with Missions for planned procurements	When funds are obligated	On going activity – submitted all countries that provided information at the end of September and have shared updates.
Product Fact Sheets	As new products become available	Submitted September 30, 2010
Freight rate validation study	Reported in Annual Report (November 15, 2009 and 2010)	Submitted on May 15, 2010 and November 15, 2010
LN cost effectiveness analysis	3 <sup>rd</sup> Quarter FY2010	Submitted on September 30 <sup>th</sup> 2010
QA Report Card	Reported in Semi-annual Report (May 15, 2010) and Annual Report (November 15, 2010)	Submitted both in Semi-annual and Annual report.
DelPHi system is available according to service level agreement.	Continuously. Uptime statistics for the system are reported monthly in the MIS Performance Metrics Report.	Report sent monthly during the reporting period
MIS Maintenance status report showing completed and in-progress projects as directed by the Change Control Board	Reporting on system modifications continues on a weekly basis.	Updates on system modification sent weekly during the reporting period

<b>Deliverable</b>	<b>Due</b>	<b>Status</b>
<b>Objective 2</b>		
Timely mobilization and response to USAID requests for technical assistance	Periodic	2 staff traveled in September 2010 within 24 hours of request in response to a request from PMI and USAID   Malawi
Updated country workplans	October 31, 2010, October 31, 2011	FY11 draft workplan narratives submitted October 31, 2010, currently working with country programs to respond to incorporate feedback and submit to Missions for approval
End Use Verification Reports	January 31, 2010; April 30, 2010; July 31, 2010; October 31, 2010	Quarterly reports submitted. See table 4, for country details
DataDyne EpiSurveyor analysis tool adapted for countries	Zambia: January 2010; other TBD	Zambia completed; Tanzania completed; Liberia completed
ACT Quantification Tool and Reference CD available	3 months after tool is finalized	Agreed in July to use these funds to support the RBM PSM-VG's efforts to improve country level quantification; attended a meeting in November to define needs and required support. Will work with Larry Barat to define PMI's support in this area.
Optimization or simulation deliverables and policy brief	March 2010	Agreed in July to remove from deliverables table as no country expressed interest in using core funds for this activity
One page malaria logistics highlights	One per quarter posted on website	Submitted 2 drafts September 30, 2010; incorporated feedback on them and are in process of posting them on the website
Analysis demonstrating link between product availability and malaria indicators	1 <sup>st</sup> Quarter FY2011	Identified a site in Zambia to undertake this activity and are working with a statistician to define the study protocol. Due to the requirements of the study, we anticipate that is product will be delayed by one quarter.
Malaria section of JO course	January 2010, June 2010	Course conducted January and June 2010. Course information shared with USAID
Malaria content for DELIVER technical meeting	3 <sup>rd</sup> Quarter FY2010	Content completed for April 2010 Meeting and shared with USAID
Malaria supply chain logistics guidelines	Draft 3 <sup>rd</sup> quarter FY2010	Renegotiated the dates in July. Draft outline submitted on September 30, 2010. Draft guidelines available for review 2 <sup>nd</sup> Quarter FY11
PPMRm reports	January 2010; April 2010; July 2010; October 2010; January 2011; April 2011	Completed reports submitted for January, April, July and October 2010



<b>Deliverable</b>	<b>Due</b>	<b>Status</b>
<b>Objective 3</b>		
LN recycling pilot report	2nd Quarter FY2010	Pilot assessment completed and submitted April 2010; pilot postponed due to delay in distribution campaign, which is now scheduled for November 2010. Report available 2 <sup>nd</sup> quarter FY11
LN retire and reuse guidelines	TBD	This product is proposed in the FY11 workplan as a meeting to share lessons learned from three pilots rather than TO3 producing guidelines (which WHO will produce).
RDT disposal pilot and guidelines	1st quarter FY2011	Currently under discussion with PMI to better define the product. Anticipate it will be completed 2 <sup>nd</sup> quarter FY11
Meeting briefing notes or presentations with recommendations	TBD (depends on meeting/conference attendance)	Reports and presentations available for meetings, workshops, and conferences attended
<b>Other</b>		
Annual Report for FY2009	Draft due November 15, 2009	Submitted by deadline. Finalized May 2010.
Semi-Annual Report for FY2010	Draft due May 15, 2010	Submitted by deadline.
Work plan for FY2011	Draft due September 30, 2010	Submitted on October 29, 2010, incorporated feedback and submitted updated workplan on November 12, 2010
Annual Report for FY2010	Draft due November 15, 2010	Draft submitted November 15, 2010



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

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