USAID | DELIVER PROJECT

Task Order 3 (Malaria):

FY2011 Semi-Annual Report

October 2010–March 2011

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PRESIDENT'S MALARIA INITIATIVE

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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 malaria 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 malaria commodities.

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Abstract
This semi-annual report documents the activities of Task Order 3 (Malaria) during the first six months of FY2011 (October 1, 2010–March 31, 2011). Key sections highlight the major activities under each objective—the accomplishments, the implementation issues, and proposed solutions, including the key performance objectives for the next reporting period.

Cover photo: Community members in Nigeria travel by boat to distribute long-lasting insecticide-treated bed nets during a universal coverage distribution campaign, supported by the President's Malaria Initiative (USAID | DELIVER PROJECT).

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Acronyms

ACT	artemisinin-based combination therapy
AL	artemether-lumefantrine
AMFm	Affordable Medicines Facility__ malaria
AMP	Alliance for Malaria Prevention
ARV	antiretroviral
AS/AQFDC	artesunate/amodiaquine fixed-dose combination
CAMEG	*Centrale D'Achat des Medicaments Essentiels Generiques et des consommables Medicaux*
CAMERWA	*Centrale d'Achats des Médicaments Essentiels du Rwanda*
CBO	community-based organization
CCB	Change Control Board
CDC	Centers for Disease Control and Prevention
CES ECAR	Episcopal Commission for Health of the Catholic Church
CHAI	Clinton HIV/AIDS Initiative
CMAM	*Central de Medicamentos e Artigos Médicos*
CPIR	Commodity Procurement Information Request
DRC	Democratic Republic of the Congo
DSF	*de la Santé de la Famille*
EOI	Expressions of Interest
EPI	Expanded Programme on Immunization
FDA	U.S. Food and Drug Administration
FHI	(formerly Family Health International)
FIND	Foundation for Innovative Diagnostics (WHO)
FISA	local representative of International Planned Parenthood Federation
GF	Global Fund
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHS	Ghana Health Service
HMIS	health management information system
IDA	International Dispensary Association
ILS	integrated logistics system
IPTp	intermittent preventive treatment (of malaria) in pregnancy
IQC	Indefinite Quantity Contract
JSI	John Snow, Inc.
LLIN	long-lasting insecticide-treated bed net
LMIS	logistics management information system
LTTA	long-term technical assistance
MCHIP	Maternal and Child Integrated Health Program
MIS	management information system
MOH	Ministry of Health
MOH/PTF	Ministry of Health/Pharmacy Task Force
MOHCW	Ministry of Health and Child Welfare
MOP	Malaria Operational Plan
MSD	Medical Stores Department

MSH	Management Sciences for Health
NGO	nongovernmental organization
NIR	near-infrared
NMCP	National Malaria Control Program
NUR	National University of Rwanda
OJT	on-the-job training
PADS	*Programme d'Appui pour le Développement Sanitaire*
PMI	President's Malaria Initiative
PMP	Performance Monitoring Plan
PMPB	Pharmacy and Poison Board
PMSS	Pharmaceutical Management Systems Strengthening
PPMRm	Procurement Planning and Monitoring Report for malaria
PSC	parallel supply chain
PSI	pre-shipment inspection or Population Services International (project)
PSM	Procurement and Supply Management
PSU	Pharmaceutical Supply Unit
QA	quality assurance
QASP	Quality Assurance Surveillance Plan
R&R	Report & requisition
RBM	Roll Back Malaria (project)
RDC	regional distribution center
RDT	rapid diagnostic test
RFP	Request for Proposal
RFQ	Request for Quote
SAF FJKM	Development Department of the Church of Jesus Christ in Madagascar
SALFA	Development Department of the Lutheran Church
SCMgr	Supply Chain Manager (software)
SCMS	Supply Chain Management System
SCMU	Supply Chain Management Unit
SKU	stockkeeping unit
SM WG	Procurement and Supply Chain Management Working Group
SOP	standard operating procedure
SOW	scope of work
SP	sulphadoxine-pyrimethamine
SPS	Strengthening Pharmaceutical Systems project
SRA	Stringent Regulatory Authority
SSDM	Stores, Supplies and Drugs Management
STTA	short-term technical assistance
TO	task order (generic)
TOM	Task Order Malaria
TOT	train-the-trainer
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
WHO	World Health Organization

Executive Summary

This semi-annual report covers the period from October 1, 2010 to March 31, 2011; it describes the activities of Task Order 3 (TO3), one of three task orders under the USAID | DELIVER PROJECT Indefinite Quantity Contract (IQC), 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). This 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 three main objectives, under which all its activities are organized, are to—

1. improve and expand USAID's provision of malaria commodities to country programs
2. strengthen in-country supply systems and their capacity for managing malaria commodities
3. improve global supply and the availability of malaria 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).

Some key accomplishments, by objective, during this reporting period include—

1. Improve and expand USAID's provision of malaria commodities to country programs.

- The project procured commodities worth $93,614,641. This represents 93 percent of the value of the commodities procured in the preceding 12 months.
- To respond to an increasing number of emergency orders, and increased lead times from the manufacturer, the project is establishing an emergency stockpile of artemether-lumefantrine (AL), Coartem®, at the UPS Roermond warehouse in the Netherlands. We started the implementation during the second quarter of FY2011. Based on initial calculations, by holding stock, TO3 would be able to respond to emergency orders within one to two weeks, instead of the 10 to 14 weeks it currently takes.
- TO3 continued to implement its rigorous quality assurance polices, including concurrent physical and chemical testing of long-lasting insecticide-treated bed nets (LLINs), lot testing of rapid diagnostic tests (RDTs) at the World Health Organization (WHO)-qualified labs, batch testing of pharmaceuticals, and near-infrared (NIR) scanning of select pharmaceuticals by the Centers for Disease Control and Prevention (CDC).
- The management information system (MIS) continued to support the operations of the Supply Operations team and provide access to up-to-date information on orders, shipments, and account status for registered users.

2. Strengthen in-country supply systems and their capacity for managing malaria commodities.

- In Angola, the project uses commercial warehousing and transportation companies, supporting the essential need of PMI to maintain commodity visibility to the provincial level while, at the same time, reducing in-country costs for warehousing and security by approximately $50,000. It also shortened the time required for distribution by five days. Previous distributions had ranged from 25 days to 11 days; the most recent distribution took only six days.
- In Burkina Faso, the project trained 63 district data managers, 13 regional data managers, 12 hospital data managers, and 13 regional pharmacists on how to use the malaria database. The National Malaria Control Program (NMCP) developed the database with financial support from the Global Fund Round 7 to improve logistics data reporting on malaria through the health system.
- In Burundi, the sub-contractor cleared and stored 415,000 LLINs for routine national distribution through public health facilities: 265,000 LLINs were delivered nationally from October through December 2010 at 543 public health facilities; including 199,516 LLINs distributed to pregnant women at ANC services and 101,005 LLINs distributed to children under one year of age at Expanded Programme on Immunization (EPI) services.
- In Ghana, the project supported the LLIN hang-up campaign for the Eastern region, which included training 82 storekeepers, transporting the LLINs to selected districts, monitoring the distribution, and supporting the post-campaign validations. As a result, 444,700 LLINs were distributed and hung in ten districts in the region. At the 2011 Alliance for Malaria Prevention (AMP) meeting, Ghana's LLIN distribution campaigns were recognized for their effectiveness.
- In Liberia, 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.
- In Madagascar, the project conducted an LLIN recycling pilot, in collaboration with partners. The project collected 22,559 used LLINs from 394 collection sites in six districts. As expected, most of the used LLINs were from the 2007 campaign. The used bed nets are now being processed by a U.S.-based plastics recycling company. The project also supported the NMCP in the forecasting and procurement planning for all malaria commodities, for the next four years.
- In Malawi, the project focused on the design and roll-out of the parallel supply chain (PSC) for the storage and distribution of U.S. Government (USG)-procured commodities, starting with artemisinin-based combination therapy (ACTs). Subsequent to the good performance of the PSC, the Global Fund recommended that the malaria commodities they procure for Malawi should also be distributed through the same PSC. Begun in December 2010, the PSC has successfully completed three countrywide distributions where they delivered a total of 333,180 USG-procured and 1,724,580 Global Fund-procured ACT treatments to more than 300 facilities.
- In Tanzania, to improve the visibility of ACT movement and availability within the supply chain, the project performed ACT commodity tracking in the Dar zone, where data was collected from 25 percent of the total number of health facilities in each district. This activity

was part of a broader effort to enhance the monitoring efforts of USAID-funded ACTs, which includes developing a comprehensive national list of facilities, conducting routine physical counts of malaria commodities in all zonal and central Medical Stores Department (MSD) warehouses, assessing the report & requisition (R&R) forms, and analyzing the issues and receipts data to determine alignment.

- The project added one TO3 country, Malawi, to the list of countries where End-Use verification is being implemented. Ghana, Tanzania, and Zambia continued to regularly implement the activity, receiving backstopping support from the home office, while responsibility for End-Use verification in Liberia was transferred to the Strengthening Pharmaceutical Systems (SPS) project, with TO3 support.

- During the first quarter of FY2011, two new commodities were added to the October Procurement Planning and Monitoring Report for Malaria (PPMRm)—RDTs and sulphadoxine/pyrimethamine (SP). Additionally, three countries began reporting data for the report—Burundi, Democratic Republic of Congo (DRC), and Nigeria.

- During the reporting period, the project completed and published, *Guidelines for Managing the Malaria Supply Chain*, a malaria-specific companion guide to the logistics handbook, focusing on characteristics of the disease, service model, and products that impact supply chain design and implementation.

3. Improve global supply and availability of malaria commodities.

- The project participated in the Roll Back Malaria (RBM) Procurement and Supply Management (PSM) working group meeting in February 2011.

- TO3, on behalf of PMI, presented the summary findings of the project's detailed study of the LLIN procurements, to date, at the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) Market Dynamics and Commodities technical meeting in Copenhagen in February 2011.

- 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 of the fact that in five years, 100 million used LLINs will need to be disposed of in Africa.

Description of Activities

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

Procurement

One of the principal activities of TO3 is to support the President's Malaria Initiative (PMI) by procuring malaria 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 the first six months of FY2011, we processed requests for procurement assistance from Angola, Benin, Burkina Faso, Burundi, the DRC, Ethiopia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Rwanda, Senegal, Sudan, Tanzania, Thailand, Uganda, Zambia, and Zimbabwe.

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, etc.

Six CPIR forms are in use, with each designed to cover a specific commodity or commodity group; they also accommodate new or revised product presentations, i.e., the Coartem dispersible. We are increasingly assisting our clients in-country with the completion of these forms and we provide guidance in terms of 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 the PMI, enabling us to respond with flexibility and speed.

A Nigerian health worker ensures that LLINs are properly recorded (USAID | DELIVER PROJECT).

Prepare Procurement Plans and Execute Procurement Requests

During the first six months of FY2011, we received 57 procurement requests from 20 countries. A total of 102 orders were placed with vendors, for a total value of $93.6 million (commodity cost only). The value of the products procured during this six-month period is almost equal to the amount procured in the previous year (93 percent). Major procurement items included—

- 14.19 million long-lasting insecticide-treated bed nets (LLINs)
- 32.875 million artemisinin-based combination therapy (ACT) treatments (26.03 million artemether-lumefantrine [AL] and 6.845 million artesunate/amodiaquine fixed-dose combination [AS/AQ FDC])
- 14.198 million rapid diagnostic tests (RDTs)
- 14.7 million sulphadoxine-pyrimethamine (SP) tablets for intermittent preventative treatment in pregnancy (IPTp)
- 3.27 million quinine-based treatments of tablets and injections for the treatment of severe malaria
- 514 microscopes and kits for malaria testing laboratory upgrades.

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

During this period, TO3 also began procuring commodities for Zambia using funding from the U.K. Department for International Development (DFID). With DFID funding, we procured one million LLINs; 2,349,360 ACT treatments; 7 million SP tablets; and 1, 350, 000 RDTs, for a total value of $6.4 million (commodity cost only). These figures are included in the total procurement figures above. See appendix B for a complete report of DFID-funded procurement.

Sources and Suppliers of Commodities

In response to a Request for Quotes (RFQ), a vendor or manufacturer is selected, based on one or more of the following criteria:

- 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.—are included on the PMI pre-selected list and are invited to bid or quote.

In September 2010, WHO/Foundation for Innovative Diagnostics (FIND) issued a guidance paper detailing recommendations for the selection of RDTs, based on the first two rounds of the WHO/FIND product testing results. We decided, in consultation with PMI, that the project would issue a new Expression of Interest (EOI) during the period of this report. The EOI was published in October 2010; TO3, FHI, and PATH evaluated the responses. Seven manufacturers were selected, based on meeting the technical criteria defined and the performance of the RDTs under Round 2 of

the WHO/FIND product testing. See appendix C for the WHO/FIND lot testing report. See appendix D for the current list of selected manufacturers.

Establishing an Emergency Stockpile

The demand for ACTs, primarily Coartem, has grown considerably over the past six months; due, in part, to the Affordable Medicines Facility---malaria (AMFm) pilot implementation. In addition, PMI has been asked to fund an increasing number of *emergency* requirements when, for a variety of reasons, deliveries funded by other donors were delayed. These factors have increased lead times, and discussions were held with Novartis during the first quarter of FY2011 to determine how we could be more responsive to these demands.

A strategy was agreed upon, which involves two tactical approaches. The first was that Novartis agreed to offer significant discounts for orders placed 12 to 16 weeks in advance of demand. This would assist in their production planning. The second was an agreement that TO3 would manage its own inventory of Coartem at the UPS Roermond warehouse in the Netherlands; this would enable us to respond quickly to countries' emergency orders, obtain better pricing, and mitigate supplier production risk.

Based on initial calculations, by holding stock, TO3 would be able to respond to emergency orders within one to two weeks, instead of the 10 to 14 weeks it currently takes. Additionally, because of discounts associated with advanced orders, TO3 would be able to cover the cost of storage and still pass on an estimated savings of $250,000 to PMI during the first 12 months, and an estimated 10 percent savings on stockpiled Coartem. During the second quarter of FY2011, we have moved forward on these agreements and the first tranche of Coartem will be available in June 2011.

Performance Monitoring Plan Indicators

During the reporting period, the project has continued to monitor system performance on a monthly basis. Given the high level of system performance last year, we raised the target levels this year from 80 percent to 85 percent or higher (green), from 50 percent to 65 percent (yellow), and from 50 percent to 64 percent or lower (red). During this reporting period, the orders available for shipping rate is 85 percent. The *received in-country by desired receipt date* is below the target performance level (74 percent) because of a number of factors, including extended pre-clearance delays. For supplier performance, we recorded 19 delayed orders out of 92 placed. The details for both these indicators, by month, are listed below.

November: Late shipments were due to pre-clearance delays in Mozambique (19 days), Democratic Republic of the Congo (DRC) (9 days), and Tanzania (10 days). Additionally, a manufacturer error caused a delay on a shipment of catheters to Mali.

December: Four shipments were received late due to pre-clearance delays in DRC (three orders) and Mozambique (one order), 23 days and 24 days, respectively. Five other shipments were not shipped on time because of pre-shipment clearance delays (Mozambique and Zimbabwe).

January: Three shipments—all to DRC—were received late because of transportation issues in DRC. Three manufacturers had production issues that caused delays—one due to a storm that caused a power outage, one because of labor disputes, and one of unknown cause; delays ranged from four to 14 days.

February: Four shipments were delivered late—two for Mozambique because of pre-clearance delays (30 and 53 days, respectively), one for Zambia microscopes (six days late due to customs

clearance delays), and one for Liberia because of quality assurance (QA) issues with the FDC AS/AQ when we had to split the shipment. Additionally, one order was shipped late due to pre-clearance issues (Sudan RDTs).

March: Three shipments were received late due to pre-clearance delays in Zimbabwe (13 days), Tanzania (37 days), and Uganda (24 days). Two manufacturers had production delays; one with one order and the other with five orders.

Table 1. Performance Monitoring Plan for the Procurement Process, October 1, 2010–March 31, 2011

Operational Area	Indicator	Status
Monthly system scorecard implemented	Monthly scorecard available	Available monthly
Orders shipped and received on time (data from 10/10–3/11)	% of orders available for shipping within 10 working days of contracted date with vendors	85%
	% of orders received by countries within a month of agreed-to date with the mission	74%
Suppliers deliver ordered commodities to satisfy contractual requirements	Supplier fill rate (contracted quantity on time) (data from 10/09–2/10)	79%
Respond to emergency orders	% of emergency orders responded to during the previous six months	100%

The overall indicator results were at or slightly below the target levels. These results are in spite of the increased level of procurement activity during this period.

Freight Forwarding

From October 2010–March 2011, the freight team successfully forwarded malaria commodities to several PMI countries—Angola, Benin, Burkina Faso, Burundi, DRC, Ethiopia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Rwanda, Senegal, Sudan, Tanzania, Zambia, and Zimbabwe. The freight team also coordinated the in-country distribution of ACTs and RDTs 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 work with the management team 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 the MIS website users.

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. For the most recent Angola shipment, the project obtained exemptions from several Angolan government agencies, which allowed the consignment to bypass the customs warehouse

and be delivered directly to the provincial recipients. This model will likely be followed for future commodity shipments to Angola.

Quality Assurance

Long-lasting insecticide treated bed nets

From October 2010–March 2011, the Quality Assurance team managed pre-shipment inspection and testing for 15 orders of bed nets from three different suppliers. Crown Agents performed sampling and inspection for all consignments at the manufacturing sites. FHI reviewed the inspection results and released the orders for shipment. FHI and PSB Singapore performed chemical testing for the deltamethrin- and permethrin-treated bed nets.

Complete test reports and Certificates of Conformances were made available for each shipment (median was 17 days, ranging from 10 days to 30 days after sampling) and prior to the shipments arriving in-country. No product complaints were reported during this time.

Rapid diagnostic test kits

During the reporting period, there were 18 new shipments of RDTs from five different suppliers. Samples of each order were taken pre-shipment for testing by a WHO laboratory. Test results were available between 4 to 19 days after sampling (median was 12 days); all results were compliant. Order consignments were released for shipment after receipt of the test results. Semi-annual stability testing reports of samples from previous orders were received and reviewed. All results were compliant with WHO specifications. No product quality complaints were reported.

During the reporting period, TO3 contracted with FIND to support the lot testing of RDTs, through the WHO laboratories. The contract went into effect at the end of January 2011. During the January–March quarter, FIND supported initial testing of 114 batches, which increased to 177 batches when those tested for stability are included. PMI-procured RDTs account for 55 of 114 initial batches and 71 of the 177 initial and stability testing batches. See appendix C for the full report.

Pharmaceutical drugs

Food and Drug Administration/ Stringent Regulatory Authority approved drugs

Drugs that are approved by the Food and Drug Administration (FDA) or another Stringent Regulatory Authority (SRA) do not require pre-shipment analytical testing. From October 2010–March 2011, this policy applied to Coartem from Novartis, and to Perfalgan® paracetamol injections from Bristol-Myers Squibb.

Coartem

The QA team reviewed manufacturer's Certificates of Compliance for all batches of Coartem procured between October and March (186 batches for 26 orders). In November, FHI received retention samples from Novartis for each batch procured by the project in the preceding six months. These samples will be scanned with near-infrared (NIR) spectroscopy, as part of the routine QA check for active ingredients and lot-to-lot consistency. FHI has also started analytical testing of these retained samples for the amount of active ingredients.

Paracetamol

The severe malaria kits shipped to Burkina Faso contained Perfalgan paracetamol injections. The quality of this product was accepted, based on a review of the manufacturer's Certificate of Analysis for each batch. However, this product had long and uncertain lead times due to the huge demand in Europe, which impacted availability at the country level, both of paracetamol and other items contained in the kits.

WHO pre-qualified drugs

WHO-prequalified products were tested concurrently until recently. During this time, three samplings (of four different shipments) of AS/AQ fixed-dosed combination were tested.

Other pharmaceutical drugs

Other drugs procured by the project were tested at pre-shipment (non-concurrent to shipping). All test results were compliant with the appropriate standards, including USP, BP, IP, and the manufacturer's specifications. These test results were available at a median time of 26 days after sampling. The International Dispensary Association (IDA) Foundation automatically has their products tested by an accredited laboratory for each batch.

Excluding the previously mentioned issue with the AS/AQ orders, the longest required time to receive test results was for a partial sampling of intravenous dextrose (42 days). This drug was part of the severe malaria kits and results were available at the same time as other components that were sampled later; this did not cause any extra delay. All other test results were available within 30 days of sampling.

Table 2. Performance Monitoring Plan Indicators for the Quality Assurance Process, October 1, 2009–March 31, 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 pre-shipment test reports available	100%
		Median time (in days) and range of days required for pre-shipment LLIN test reports to be available	17 days Range 10–30 days
		% of RDT shipments with up-to-date quarterly test reports available	100%
		Median time (in days) and range required from sampling date for pre-shipment RDT test reports	12 days Range 4–19 days
		% of pharmaceutical shipments with pre-shipment certificates of conformance	100%
		Median time (in days) and range required from sampling date for pre-shipment pharmaceutical test reports	26 days Range 20–75 days

Management Information System

The management information system (MIS) facilitates 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, solely 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; the team has 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.

Table 3. Performance Monitoring Plan Indicators for the MIS, October 1, 2010–March 31, 2011

Support Area	Operational Area	Indicator	Status
Management information system	Availability of USAID | DELIVER PROJECT website	% of time the USAID | DELIVER PROJECT website is available	99.99 %
	Total number of visits	Total number of visits to the USAID | DELIVER PROJECT website	177,914
	Number of logins	Total number of logins to the USAID | DELIVER PROJECT website	3,340

Objective 2: Strengthening In-Country Supply Systems

Long-Term Technical Assistance

Strengthening in-country supply systems and building greater capacity for improved management of malaria commodities at the local level are critical to the success of 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 FY2011 reporting period. See appendix E for additional country activities.

Angola

- Using commercial warehousing and transportation companies in Angola continues to help in preventing leakage and diversion of PMI commodities. As an on-going effort to rationalize and streamline their use, while maintaining the same level of quality, the USAID | DELIVER PROJECT identified areas that could be improved in the delivery of commodities to Angola. Through the consolidation and pre-configuration of various PMI commodities in Europe, according to their final provincial destination, orders (upon arrival in Luanda) could be loaded directly onto vehicles for subsequent delivery instead of using a transit warehouse in Luanda.

This saved both money and time—reducing the costs for warehousing and security by more than $50,000 and shortening the time required for distribution by five days (previous distributions took between 25 and 11 days to complete).

Burkina Faso

- From October 2010 to February 2011, the project, with the technical working group—the pharmacy department, *Centrale D'Achat des Medicaments Essentiels Generiques et des consommables Medicaux* (CAMEG), National Malaria Control Program (NMCP), *Direction de la Santé de la Famille* (DSF), analyzed the ACT stock status and the supply plan monthly. The ACT stock situation and quantities of products required to satisfy needs were presented at the national committee of ACT implementation meetings. In response to a pending gap in the supply of ACTs, PMI placed an emergency order to ensure continued availability.

- After the Global Fund Round 8 procurement and distribution of LLINs, there were major gaps in coverage. To help reach the goal of universal coverage for the distribution of LLINs, the project sent 100,000 PMI-funded LLINs, at the request of NMCP, to the Centre-Nord region (four districts) in January 2011. The project organized transport for 35,000 LLINs to 11 selected districts in three regions: Sahel, Centre-EST, and EST. The project also provided 15,000 units of PMI-funded LLINs to the NMCP for distribution in the Centre region.

Burundi

- The project, through its subcontractor, PSI, conducted a survey to evaluate the LLIN coverage and use in nine provinces that were targeted by the 2009–2010 LLIN mass distribution campaigns. The survey found that 64.2 percent of households interviewed have received at least one LLIN; 45 percent of households interviewed meet the standard of one LLIN for every two people; and 60.5 percent of children in the household under five years slept under an LLIN the night before the interview, as well as 58.5 percent of pregnant women.

Ghana

- The project, in collaboration with the NMCP, supported the hang-up campaign for the Eastern region. This included training 82 storekeepers, transporting the LLINs to selected districts in the Eastern region; and monitoring the distribution and supporting the post-campaign validations. As a result, 444,700 LLINs were distributed and hung in ten districts in the Eastern region; 550,250 LLINs have been transported to the 11 remaining districts in the region and will be distributed and hung in May 2011.

- The project is in discussions with a recycling plant in Accra to recycle the empty LLIN plastic bags obtained from the Northern and Eastern region LLIN hang-up campaigns. This will ensure appropriate disposal of the plastic waste generated from this campaign and future campaigns.

Liberia

- The project supported the Supply Chain Management Unit (SCMU) to roll out the revised logistics management information system (LMIS). This included printing the revised LMIS forms for the whole country and rolling out the LMIS in Montserrado county, where approximately 40 percent of Liberia's health facilities are located. With partners, the project developed all necessary training materials for the on-the-job training (OJT) associated with the

LMIS forms training. LMIS rollout in the remaining 14 counties will start in the coming months.

- The project assisted the SCMU in drafting the Forecasting Standard Operating Procedures to guide the respective programs in estimating their future needs. The two-day workshop was attended by 33 participants from country health teams; health programs; SCMU; Clinton Health Access Initiative; Merlin International; University of Liberia, School of Pharmacy; Rebuilding Basic Health Services Project; UNDP; and Management Sciences for Health (MSH)/ Strengthening Pharmaceutical Systems (SPS) project. Capacity was built on how to develop malaria and other health commodities forecasting-related standard operating procedures (SOP).

Madagascar

- In Madagascar, the project conducted an LLIN recycling pilot with the National Coordination Committee for LLIN campaigns, Ministry of the Environment, WHO/SAICM Project, PSI, and the mission. The project collected 22,559 used LLINs from 394 collection sites, in six districts. As expected, most of the LLINs were from the 2007 campaign; 50 percent of them were made of polyethylene; the other 50 percent were made of polyester. TREX, a U.S.-based plastics recycling company, is now testing the used bed nets to determine their material properties.

Malawi

- The first semester of this fiscal year was dominated by the design and roll-out of the parallel supply chain (PSC) for the storage and distribution of U.S. Government (USG)-procured commodities, starting with malaria commodities (ACTs, SP, RDTs). A tendering process (RFP) has started; a third party logistics provider was selected (through RFP tendering) and they signed a contract with the project. Subsequent to the good performance of the PSC, the Global Fund recommended that the malaria commodities they procure for Malawi should be also distributed through the same PSC. On the side of USG commodities, the PSC also distributes family planning USG-procured commodities, such as male condoms and implants (Jadelle). Begun in December 2010, the PSC has successfully performed commodity distribution during three countrywide roundtrips.

Mozambique

- The project continued to support *Central de Medicamentos e Artigos Médicos* (CMAM) by packing 7,543 AL kits (1,565,130 treatments) for health facilities and 8,424 AL kits (916,740 treatments) for community health workers at the Maputo central warehouse, and transporting them to the provinces. The project also packed and transported 3,034 AS/AQ kits (758,500 treatments) for health facilities, because of the Ministry of Health (MOH) decision to distribute AS/AQ as part of the kits, which were used to cover an AL shortage. This will be phased out after sufficient AL arrives in-country and we can resume packing kits that contain only AL.

- The project conducted a five-day training in quantification of health commodities (antimalarials, contraceptives, antiretrovirals [ARVs]) for program managers from the MOH, and for CMAM staff and implementing partners. The training aimed at strengthening the capacity of the participants in the processes and methodologies for estimating consumption and needs, developing procurement plans, and using PipeLine software. With this foundation, the project led meetings with the MOH (NMCP and CMAM) and partners to finalize the forecast exercise

for antimalarial commodities and updated the procurement plan for the next three years (2011–2013).

Nigeria

- The project continued to closely collaborate with the NMCP and other partners to plan and support the roll-out of LLINs. From October 2010 through March 2011, 12,797,372 LLINs were distributed in nine states. Additionally, the project provided LLIN transportation assistance to the village level in Cross River State.

- The project supported the NMCP with monitoring the ACT stock status in all 37 states; this highlighted the low levels of stock in most of the states. The project is working with the NMCP and the other partners to move the stock that remains at the state level to the health facility level in 19 states where the ACTs are due to expire in October.

Rwanda

- The project, in collaboration with the Pharmacy Task Force and the National University of Rwanda (NUR), continues to support the pharmacy department on pre-service training. This prepares all graduating pharmacists to better manage the health commodities that are their responsibility, including malaria commodities. The project led a review of the lecturers' guide and student syllabus with representatives from the Pharmacy Task Force; *Centrale d'Achats des Médicaments Essentiels du Rwanda* (CAMERWA); and three students and five lecturers from the university. The revised materials, which cover all health commodities, including malaria, were then used to train the fourth- and fifth-year pharmacy students. From November 15–26, 2010, the NUR and its pharmacy department organized logistics trainings for the fourth- and fifth-year students; they organized four workshops for 110 students. Five pharmacy department lecturers who attended the train-the-trainer (TOT) in January 2010 facilitated the workshops. The post-test showed that 91.1 percent of students rated high and 75.7 percent received great distinction. A number of these students then served as data collectors during the national physical inventory exercise.

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, which will 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.

- To improve the visibility of the movement and the availability of ACTs within the supply chain, the project, in coordination with the NMCP, performed ACT commodity tracking in the Dar zone, where data was collected from 25 percent of the total number of health facilities in each district (approximately 107 facilities). This activity is part of a broader effort to enhance the monitoring efforts for USAID-funded ACTs, which includes developing a comprehensive national list of facilities, conducting routine physical counts of malaria commodities in all zonal and central MSD warehouses, assessing the report & requisition (R&R) forms, and analyzing the issues and receipts data to determine alignment.

Zambia

- The project reviewed and updated the five-year (2010–2015) forecast for malaria drugs and RDTs. The results were disseminated to stakeholders to inform malaria program planning.

- In response to gaps—due to issues around Global Fund grant disbursement delays—DFID provided funding directly to USAID to allocate to the project so we could procure and deliver critical malaria commodities. The above referenced forecast informed DFID on what products to procure through the project.

- The project continued to monitor the logistics management systems for essential drugs, including antimalarial medications and RDTs, in the 16 pilot districts and eight control districts.

- The results show—
  - continued increase in stock availability and access to ACTs
  - continued reduction in malaria commodity stockouts, at both the central and SDP levels
  - reduction in the number of clinically diagnosed malaria cases because of an increase in RDT usage and training of health staff in malaria case management.

Zimbabwe

- The project assisted the Ministry of Health and Child Welfare (MOHCW) DPS and NMCP review the quantification for ACTs, in response to an MOHCW request to USAID for ACT funding. As a result, USAID funded an emergency shipment of ACTs worth $1 million to fill the funding gap. The shipment of approximately 750,000 treatments was received, averting a central-level stockout. Scheduled shipments of quinine and SP were received, as planned.

- The project continued to support MOHCW DPS and NatPharm with quarterly deliveries of TB and malaria commodities and primary health care packages to health facilities.

Short-Term Technical Assistance

Under TO3, short-term technical assistance (STTA) usually includes short assignments to support 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. During the previous six months, TO3 has provided STTA in Angola, Burkina Faso, Burundi, Ghana, Liberia, Madagascar, Malawi, Mozambique, Nigeria, Tanzania, Zambia, and Zimbabwe. See appendix F for a full list of the project's STTA.

Malaria Monitoring Activities

End-Use Verification and EpiSurveyor

The first half of FY2010 saw one additional TO3 country, Malawi, initiate the End-Use verification activity—the quarterly facility-level data gathering activity designed to provide information about the malaria supply chain and the diagnosis and treatment of the disease. Ghana, Tanzania, and Zambia continued to regularly implement the activity, receiving backstopping support from the home office, while responsibility for End-Use verification in Liberia was transferred to the SPS project, with TO3 support.

Ghana. During the first half of 2011, TO3 supported the project office in Ghana to complete its 6th and 7th rounds of data collection for the activity, reviewing the reports and giving technical support related to the survey, and the technology (EpiSurveyor) used for data collection and analysis. Feedback provided for a review of the activity in March showed that the findings are widely shared with in-country stakeholders, and are being used to make programmatic decisions relating to the ordering of commodities, training of health facility staff, etc.

Liberia. As per the FY2010 Malaria Operational Plan (MOP), responsibility for the End-Use activity was transferred to SPS at the beginning of FY2011. The project supported this transition by working with SPS on the final round of data collection at the end of FY10, providing training and orientation to the activity, and liaising with SPS staff at headquarters, as needed, during their first round of data collection in FY2011.

Malawi. The project assumed responsibility for the End-Use activity in Malawi, carrying out the first round of data collection at 112 facilities in January 2011. Adaptation of the collection tool and data analysis was supported through STTA provided by TO3 staff; as well as assistance from the home office, working with project staff and in-country partners from NMCP, the Pharmacy and Poison Board (PMPB), and the health management information system (HMIS) unit. The next round of data collection is scheduled to begin in May 2011.

Tanzania. Data was gathered and analyzed for Rounds 8 and 9 in Tanzania, where the activity has been ongoing since January 2009, with more than 200 facilities visited in all 21 mainland regions. Discussions with NMCP, the Pharmacy Supplies Unit (PSU), and USAID/Tanzania led the project office to design a new sampling strategy, reaching 180 facilities, per quarter, in an effort to provide data that is more representative of the country's 4,500 plus public treatment sites. TO3 staff at headquarters worked to help the country office prepare for the augmented data gathering, scheduled to take place for the first time in May 2011.

Zambia. End-Use in Zambia has been ongoing since November 2009, with more than 110 facilities visited in all 10 regions. The country office continued to implement the activity in the first half of FY2011, with support from the project staff at headquarters. Feedback provided in March 2011 showed that the findings of the activity are shared at the district and central level immediately following the activity; the results have been used to make decisions concerning stock distribution and have led to follow-ups at facilities with identified issues.

In addition to the quarterly implementation of the activity, TO3 staff at headquarters met with PMI/Washington and SPS in March 2011 to discuss the current state of End-Use verification. The project presented summary findings from each country and made recommendations to improve the activity. A follow-up meeting is scheduled for May 2011.

Procurement Planning and Monitoring Report for malaria

During the first quarter of FY2011, two new commodities were added to the October Procurement Planning and Monitoring Report for Malaria (PPMRm)—RDTs and SP. Additionally, one non-focus country, Burundi, was added.

During the second quarter of FY2011, the addition of one non-focus country—DRC—and one focus country—Nigeria. As Nigeria does not hold central-level stock, they are providing data on a state-by-state basis. For this quarter, they reported on the stock status of three of the USAID-supported states. More states will be added in subsequent reporting periods.

A total of 18 countries reported data for the January PPMRm. Of the 18 countries, TO3 is responsible for collecting data in eight of those countries. However, the project is still unable to access data for the remaining two PMI-focus countries: Rwanda and Madagascar. Rwanda does not permit the project access to its data because ACTs are not procured through PMI, but through the Global Fund (GF); in Madagascar, the project has been unable to collect data because of the USG sanctions.

The tool now provides information quarterly on the stock status of three antimalarial commodities: ACTs, RDTs, and SP. The tool continues to play a critical role in identifying current or impending shortages, stockouts, and expiries. During the first half of FY2011, PMI used the information provided in the PPMRm to address stockout situations in a number of countries; subsequently, they alleviated these situations by sending emergency shipments of the needed commodities to those destinations.

Table 4. Performance Monitoring Plan Indicators for Technical Assistance and Monitoring

Operational Area	Indicator	Status
Providing information about in-country supply chain performance	Facility stockout rate: % of facilities that having a stockout of a product expected to be provided, or issued by that site, on the day of the visit	See appendix H
	Country stockout rate: % of countries having a stockout at the central warehouse(s) at the time of reporting	For a full list of countries, and further explanation, see appendix H. For Q1 of FY11 stockout rates were as follows: AL 6x1 = 0/9 = 0% AL 6x2 = 0/9 = 0% AL 6x3 = 1/9 = 11% AL 6x4 = 0/9 = 0% AS/AQ FDC 25/67.5mg = 0/9 = 0% AS/AQ FDC 50/135mg = 0/9 = 0% AS/AQ FDC 100/270mg 3 tabs = 1/9 = 11% AS/AQ FDC 100/270mg 6 tabs = 0/9 = 0% AS+AQ 3+3 = 1/9 = 11% AS+AQ 6+6 = 1/9 = 11% AS+AQ 12+12 = 1/9 = 11% SP = 2/9 = 22% RDTs = 2/9 = 22% For Q2 of FY11 stockout rates were as follows:

Operational Area	Indicator	Status
		AL 6x1 = 2/12 = 16.6% AL 6x2 = 2/12 = 16.6% AL 6x3 = 3/12 = 25% AL 6x4 = 2/12 = 16.6% AS/AQ FDC 25/67.5mg = 1/12 = 8% AS/AQ FDC 50/135mg = 0/12 = 0% AS/AQ FDC 100/270mg 3 tabs = 2/12 = 16.6% AS/AQ FDC 100/270mg 6 tabs = 1/12 = 8% AS+AQ 3+3 = 2/12 = 16.6% AS+AQ 6+6 = 2/12 = 16.6% AS+AQ 12+12 = 1/12 = 8% SP = 3/12 = 25% RDTs = 2/12 = 16.6%
	Functioning LMIS: % of countries where an LMIS is present that routinely collects and reports stock status data (i.e., stock on hand and consumption data) from all SDPs in the country	5 /11 = 45% For a full list of the countries and further explanation about the LMIS, see appendix H.
Respond to STTA needs, as per mission request, to strengthen in-country supply chain management for antimalarial commodities	Timely response to ad hoc TA needs: % of STTA trips per mission's/PMI/Washington ad hoc request conducted on time	**Total: 2/2 = 100%** Burkina Faso: 0 Ghana: 0 Liberia: 1/1 Malawi: 1/1 Mozambique: 0 Nigeria: 0 Rwanda: 0 Tanzania: 0 Zambia: 0 Zimbabwe: 0 Madagascar: 0
In-country supply chain strengthened or improved	Quantity of antimalarial commodities (LLINs, SP tablets, ACT treatments, RDTs) distributed in country using funds obligated to USAID | DELIVER PROJECT	Angola: 1,884,210 ACTs 450,000 RDTs Benin: 200,000 LLINs Burkina Faso: 35,000 LLINs DRC: 3,780,000 ACTs 500,000 RDTs Ghana: 444,700 LLINs Kenya: 2,630,400 ACTs 547,800 RDTs

Operational Area	Indicator	Status
		Madagascar: 149,640 RDTs 2,579,640 LLINs Malawi: 2,057,760 ACTs 968,000 SP Mozambique: 2,777,980 ACTs Nigeria: 614,000 LLINs Rwanda: 200,100 RDTs Uganda: 1,290,000 ACTs
	% of countries receiving field support TA funds reporting on supply chain performance via the End-Use verification activity	**4 / 9 = 44%** For a full list of countries, and further explanation, see appendix H.
	Number of individuals trained on the supply chain management of malaria commodities	**TOTAL: 3,355** Burkina Faso: 117 Ghana: 153 Liberia: 45 Madagascar: 20 Malawi: 129 Mozambique: 30 Nigeria: 1,271 Rwanda: 1392 Tanzania: 30 Zimbabwe: 168
	% of countries with field support TA funds reporting central-level stock levels of select malaria products in quarterly stock monitoring reports	**8 / 11 = 73%** Burkina Faso: yes Ghana: yes Liberia: yes Madagascar: no Malawi: yes Mozambique: yes Nigeria: yes Rwanda: no Tanzania: yes Zambia : yes Zimbabwe: no**
	Functioning Coordination Committee: % of countries with a logistics coordination mechanism in place that includes participation of NMCP and CMS (or their equivalents), with a meeting that takes place at a specifically appointed time (e.g., during a	**TOTAL: 6 / 11 =55%** Burkina Faso: yes Ghana: no Liberia: yes Madagascar: No Malawi: no Mozambique: yes Nigeria: yes Rwanda: not during the reporting

Operational Area	Indicator	Status
	reporting quarter)	period, but there is now. Tanzania: yes Zimbabwe: yes
	Available supply plans: % of countries that have developed supply plans for PMI-funded commodities*	**TOTAL 9 / 11= 82%** Burkina Faso: yes Ghana: yes Liberia: no Malawi: yes Nigeria: yes Mozambique: yes Madagascar: yes Rwanda: no Tanzania: yes Zambia: yes Zimbabwe: yes
	Number of technical reports or tools developed to support malaria supply chain performance	**TOTAL: 23** Core: 4 Burkina Faso: 3 Ghana: 3 Liberia: 1 Madagascar: 3 Malawi: 5 Nigeria: 0 Mozambique: 0 Rwanda: 0 Tanzania: 1 Zimbabwe: 3

*Zimbabwe was not included in the denominator for this indicator, because it is not a PMI focus country at the time of reporting; therefore, it does not have a MOP or anticipatory budget for procurement.

** TO3 is responsible for collecting PPMRm data in 8 countries. As previously stated, the project cannot access data for Rwanda and Madagascar. As a non-malaria country, Zimbabwe has not yet been asked to report on the PPMRm.

Tools and Guidelines

The project developed or updated a number of tools and guidelines during the reporting period. The tools developed by TO3 are published on the USAID | DELIVER PROJECT website and are available to field offices, missions, and partners.

Product Fact Sheets

To help facilitate logistics planning and the proper management of malaria commodities, TO3 also created product fact sheets that list drug formulations, shelf life, storage requirements, and packaging specifications. The product fact sheets have been recently updated to include artesunate injectables, which WHO now recommends for the treatment of severe malaria in adults and children. See appendix I for the complete document.

Guidelines for Managing the Malaria Supply Chain

The project completed and published a malaria-specific companion guide to the logistics handbook, which focuses on the characteristics of the disease and products that impact supply chain design and implementation. The guidelines cover all components of the logistics cycle, including product selection, quantification, procurement, storage, distribution, inventory control, and End-Use. They are meant to be used by NMCP program managers, CMS managers, country offices, and technical assistance providers to help them better manage malaria supply chains by developing Procurement and Supply Management (PSM) plans and system designs, and monitoring system performance. The guidelines are available on the project website.

RDT Waste Management Pamphlet

The project produced a pamphlet for managing RDTs. This publication is intended for all the staff at health centers that use RDTs and must dispose of the waste from the tests after they are used. Included are descriptions of the basic principles of waste management and specific solutions for managing the waste.

Artemisinin-Based Combination Therapy Freight and Warehousing Strategy

The project prepared an analysis to inform our freight and warehousing strategy for managing an emergency stock of ACTs. Two distribution models are explored in the report as potential options for warehousing and distributing the stockpile. The first option proposes the Netherlands as the location for the stockpile, using a Direct Delivery Model in which the commodity is shipped directly from the warehouse in Europe to the receiving country in Africa. The second option proposes the Supply Chain Management System (SCMS) model of using a regional distribution center (in this case, Kenya) as the location for the stockpile; the commodity is shipped from the manufacturer(s) to an regional distribution center (RDC) in Kenya via air or ocean, and is then distributed throughout Africa using air and/or road transport. The analysis compared these two options using five main criteria: cost, transit time, infrastructure, airlift capacity, and security.

The results of the analysis strongly suggest the use of the first option—the Direct Delivery Model—for the ACT stockpile; because, for our purpose, this model would be less costly and, potentially, more secure; would allow for faster movement of the commodity to its final destination; and would be the most likely to respond to fluctuations in quantity and demand.

Objective 3: Improving the Global Supply of Malaria 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 Procurement and Supply Chain Management Working Group (PSM-WG), TO3 participated in the PSM-WG meeting in February 2011. Of particular interest and concern to TO3 and PMI were the discussions on RDT quantification; FDC AS/AQ quantification, especially for the lower two weight bands, and the impact of AMFm on production capacity and supply chain for AL and FDC AS/AQ.

Global Fund to Fight AIDS, Tuberculosis and Malaria Market Dynamics and Commodities Technical Meeting

TO3, on behalf of PMI, presented the summary findings of the project's detailed study of the LLIN procurements, to date, at the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) Market Dynamics and Commodities Technical meeting in Copenhagen in February 2011. The analysis explored the factors that impacted the unit cost of LLINs and whether the project needed to consider a different procurement model from that used to date to ensure that TO3 is obtaining the best value for its money for our LLIN purchases.

Alliance for Malaria Prevention Activities

Task Order 3 sent a participant to the Alliance for Malaria Prevention (AMP) partners meeting in Geneva in February 10–11, 2011. The theme of the meeting was "Expanding the ownership and use of mosquito nets." At the meeting, the project presented the preliminary results from the Madagascar LLIN recycling pilot.

Bed Net Recycling Pilot in Madagascar

In November 2010, the task order conducted the second phase of its LLIN recycling pilot study in Madagascar. The purpose of the pilot was to determine whether recycling would be a feasible option for bed nets that are at their end-of life use. The second phase involved collecting used bed nets at the same time as a distribution campaign. The project prepared an interim report on the pilot. This report highlighted three things: (1) the feasibility of conducting a recycling campaign (considering an array of logistical and other challenges), (2) the extent to which the population is willing to participate in the campaign, and (3) the cost of implementing a recycling campaign. The final phase, which is currently in process, is the processing and recycling of the LLINs by our partner, TREX.

Quantification of Artemisinin-Based Combination Therapy and Rapid Diagnostic Tests

The project was asked to participate in an RBM-sponsored meeting on the quantification of ACTs and RDTs. Based on discussions during the meeting, it was agreed that a tool to aid in quantifying both ACTs and RDTs was necessary as countries scale up their use of RDTs; which will also impact the need for ACTs. MSH offered to lead the development of the guidelines. The project reviewed and commented on the first draft of the guidelines and participated in a review meeting around the second draft. At this last review, meeting participants agreed that the guidelines would be co-branded with all participating organization's logos.

Tropical Medicine Annual Conference

Task Order 3 also sent participants to the annual tropical medicine conference in November 2010. During this conference, the project presented two posters and participated in one panel presentation.

Health and Humanitarian Logistics 2011

The project presented on supply chain management for malaria at the Health and Humanitarian Logistics Conference held at the George Institute of Technology. The conference included speakers from academia, UNICEF, WHO, World Food Program, Federal Emergency Management Agency

(FEMA), American Red Cross, Oxfam, nongovernmental organization (NGOs), and the commercial sector.

Table 5. Performance Monitoring Plan Indicators for Supporting Global Supply and Availability Initiatives

Operational Area	Indicators	Status
Support global and regional stakeholders/forums of SCM technical issues	Number of global and regional malaria initiatives with USAID | DELIVER PROJECT technical participation	6

Performance Monitoring

During January 2011, the project worked with the TO3 COTR to revise and update the TO3 Performance Monitoring Plan (PMP) and accompanying Quality Assurance Surveillance Plan (QASP) to ensure that the best possible measures were being used to assess project performance (see appendix G for the PMP). A number of new informational indicators were added to provide data considered essential for planning and programmatic decisionmaking, but do not fall under the direct control of the project (e.g., facility stockout rate, percentage of countries with a functioning LMIS, etc.) The PMP indicators, calculated for this reporting period, are included in the relevant sections throughout this document; see appendix H for supplemental information.

In addition to the PMP indicators, during the workplanning process for the fiscal year, the project and the TO3 COTR agreed on a set of deliverables, including the dates of submission. During the reporting period, we were careful to routinely assess the status of these deliverables at routine TO3/USAID meetings. Several of the potential activities from the FY2011 workplan had contingent deliverables that would only be required if the activity was unable to proceed. All updates to the deliverables were undertaken with full consultation from USAID. See appendix J for a table of agreed-upon deliverables and their status in this reporting period.

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 discusses 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.

Implementation Issues and Solutions

Managing Increasing Artemisinin-Based Combination Therapy Lead Times and Volatility in Demand

During the last year, TO3 has experienced extended lead times from its ACT manufacturers. For example, the average lead time from one manufacturer increased from six weeks in 2008 to 16 weeks in 2011. This is due to a number of factors, including revisions in quality control procedures at one manufacturer's plant, loss of electricity due to storms at another plant, and increased demand that resulted in the AMFm pilot countries and from public sector expansion of malaria case management. This increase in lead times is, unfortunately, coupled with a growing volume of emergency orders. Some of the emergency orders are due to poor planning, but many are related to delays in grant disbursement, or other funding constraints. This increased volatility in demand, in turn, contributes to growing lead times, as it limits manufacturers' ability to adequately plan their production.

The project's ability to respond to emergency orders has been negatively impacted by growing lead times at a time when the number of emergency orders is also increasing. In response, the project is establishing an emergency stockpile of AL, which will be held in Roermand, Netherlands. The stockpile will enable the project to address immediate emergency requirements. Just at its inception, the project has committed stock from its stockpile to two countries. In addition to the stockpile, the project, during discussions with Novartis, has negotiated discounts for countries that plan their orders in advance. The farther in advance orders are placed, the greater the discount. The hope is that the discounts will provide incentives to countries to improve their forecasting and supply planning.

Improving Accountability of Supply Chains

The demand for malaria products, especially antimalarials, is high, as is their value. This provides significant incentives for diversion and theft of donated products. Many of the systems that manage malaria products are weak—they are characterized by poor warehousing and distribution infrastructure, limited inventory control procedures, and poor recordkeeping at all levels in the system. While leakage exists in all supply chains, these factors contribute to especially high levels of diversion. This highlights the need to not only improve the performance of host country supply chains, but also to improve their accountability. The project is developing procedures and tools to both assess and rank risk in the supply chain to determine the most cost-effective strategies for mitigating the risk of leakage. Additionally, we will continue to work with our in-country partners to improve visibility throughout the supply chain, limit touch points in the system, and decrease the amount of time that stock is held at any given level.

Strengthening Logistics Management Information Systems

LMISs are the heart of a supply chain. Data generated through the LMIS (specifically on consumption and stock on hand) enable program managers to make informed decisions that will ultimately improve product availability and customer service. Countries are undertaking interventions to design and improve LMISs for malaria products. In most cases, the LMIS for malaria products is part of the same system that manages essential medicines. This presents a challenge in terms of implementing improvements to the flow of information, specifically for malaria products. In-country program managers must determine strategies for improving collection and reporting of data on malaria products, while considering the investments needed to improve data on essential medicines. In addition, because malaria products are used down to the community level, a large number and range of facilities must report data; this presents challenges for complete reporting.

Country-Level Operational Challenges

The project faced a number of operational challenges, including—

- Zambia: One year after a successful pilot and its continued demonstrated success in reducing the number and duration of malaria product stockouts, the MOH has not yet agreed to roll out the essential medicines logistics system.
- Madagascar: Activities were disrupted because of the political upheaval and the subsequent U.S.-imposed sanctions that restricted support to the government.
- Nigeria: The ACT stock status in all 37 states was low at the time this report was written. Until sufficient levels of commodities are available to fill the pipeline, it is not practical to roll out the new malaria logistics system. If health facilities do not have stock to manage, they will have limited incentives to maintain recordkeeping, reporting, and ordering required under the system. If they do not apply what they learn, they will soon lose the knowledge gained through training and supportive supervision. As such, the system roll-out has been delayed. We are in regular discussions with NMCP and its partners on how to improve the stock situation and expedite the system roll-out, after stock is available.

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 Six Months

Based on the FY2011 workplan, during the last half of the fiscal year the malaria team will—

- complete the LLIN recycling analysis after we receive data from TREX
- roll out EpiSurveyor in one or two more countries
- continue to implement the End-Use verification exercises in project-led countries, including expanding it to Mozambique
- post one-page malaria logistics highlights
- prepare and submit a quarterly PPMRm report
- participate in global malaria meetings to provide supply chain perspective
- update list of pre-approved vendors for malaria commodities
- update QA scorecard and submit with annual report
- prepare FY2012 annual workplan and budget
- produce paper on Zambia malaria/essential medicines logistics system pilot results
- develop paper comparing LMIS and HMIS data in at least one country
- develop and maintain order plans for planned procurements
- update product fact sheets
- facilitate malaria section of Junior Officer course.

Appendix A

Commodities Procured, October 1, 2010–March 31, 2011

Purchase Order Details by Task Order From Date: '01-OCT-2010', To Date: '31-MAR-2011', Task Order: 'T003'

Country	Commodity	PO Date	Quantity	Total Value
Angola	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	528,300	380,376.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	282,240	304,819.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	433,350	156,006.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	640,320	832,416.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	529,920	381,542.40
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	437,760	157,593.60
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	630,720	819,936.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	285,120	307,929.60
	Test, Rapid Diagnostic Malaria, Ag P.f/pv Device, Cassette [SD Bioline] Kit	Oct-10	450,000	324,000.00
	Bed Net, Polyester, Deltamethrin, 75dn, (180x190x150), white, rectangular, piece	Oct-10	630,000	2,310,210.00
	Box, Wooden For Microscope CX21, each	Nov-10	50	6,744.50
	Microscope with Objectives W/4, 10, 40, 100 X Plan OB, each	Nov-10	50	67,496.50
	Mirror unit, for Microscope CX21, each	Nov-10	50	1,440.00
	Bulb, halogen light, for Microscope CX21, each	Nov-10	50	645.00
	Filter holder for microscope CX21, each	Nov-10	50	740.00
	Cable, electrical, for microscope CX21, 110 V/60 Hz, with plug, each	Nov-10	50	507.50
	Kit, microscopy, malaria [Microscopy Kit Angola 2011], unit	Nov-10	80	202,298.33
	Darkfield Central Stop, CH2-DS, for microscope CX21, each	Nov-10	50	400.50

	Light for Microscope, Flexible, LED, with 8 batteries, Each	Nov-10	50	3,565.50
				6,258,666.63
Benin	Test, Rapid Diagnostic Malaria, pf Device, Cassette,[SD Bioline] Kit	Dec-10	600,000	360,000.00
	Kit, microscopy, malaria [Microscopy Kit Benin 2011], each	Jan-11	20	50,959.03
	Bed Nets, Polyethylene, Deltamethrin, 118 denier, 160x195x200, light blue, rectangular, each	Feb-11	200,000	911,800.00
	Bed Nets, Polyethylene, Deltamethrin, 118 denier, 160x195x200, light blue, rectangular, each	Feb-11	500,000	2,279,500.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Feb-11	165,000	118,800.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Feb-11	90,000	32,400.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Feb-11	165,000	214,500.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Feb-11	60,000	64,800.00
	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, 300 tablets x pack, blisters, 100 x 3 tablets	Mar-11	1,900,200	54,029.02
				4,086,788.05
Burkina Faso	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	230,000	80,684.00
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	122,150	64,299.76
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	Feb-11	136,000	121,148.80
	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	78,575	21,215.25
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	243,350	128,099.44
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	Feb-11	272,000	242,297.60
	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	157,175	42,437.25
	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	460,000	161,368.00
				861,550.10
Burundi	Bed Net, Polyester, Deltamethrin, 75dn, (180x190x150), white, rectangular, piece	Dec-10	415,000	1,591,940.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette,[ParaCheck] Kit 25tests	Jan-11	300,000	186,000.00
	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	890,000	312,212.00
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	Feb-11	520,000	463,216.00
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	Feb-11	370,000	194,768.00
				2,748,136.00
Congo, Democratic Republic of	Quinine sulphate (tablets) 300mg	Dec-10	220,000	10,353.20
	Dextrose 5% Bottle of 250 ml - Nipplehead, bottle	Dec-10	8,250	2,722.50

Infusion Set, filter, 150 cm, inj.site ABS Reg., needle 21Gx 1.5, 20 drops/ml, air inlet, each	Dec-10	16,500	1,485.00
I.V. Cannulae 18G, w/port, w/wings, each	Dec-10	16,500	1,650.00
I.V. Cannulae 22G, w/port, w/wings, each	Dec-10	16,500	1,815.00
Syringe disp. 5 ml, 3- part w/needle - 21G x 1 1/2, pk 100	Dec-10	16,500	417.45
I.V. Cannulae 24G, w/port, w/wings, each	Dec-10	16,500	1,815.00
Gloves, Examination, latex, slightly powdered, medium, disposable, box of 100	Dec-10	16,500	556.05
Gloves, Examination, latex, slightly powdered, small, disposable, box 100	Dec-10	8,200	276.34
Gloves, Examination, latex, slightly powdered, large, disposable, box of 100	Dec-10	8,300	279.71
Safety Box, used needles/syringes, 5 L volume, inflammable, each	Dec-10	330	125.40
Dextrose 5% Bottle of 500 ml - Nipplehead, bottle	Dec-10	8,250	2,557.50
Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 1000treatments	Dec-10	359,000	8,867.30
Quinine di-HCl (injectable) 600mg/2ml, pack of 100	Dec-10	16,500	3,281.85
Gloves, Examination, latex, slightly powdered, small, disposable, box 100	Dec-10	22,500	758.25
Dextrose 5% Bottle of 500 ml - Nipplehead, bottle	Dec-10	22,500	6,975.00
Gloves, Examination, latex, slightly powdered, medium, disposable, box of 100	Dec-10	45,000	1,516.50
Syringe disp. 5 ml, 3- part w/needle - 21G x 1 1/2, pk 100	Dec-10	45,000	1,138.50
Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 1000treatments	Dec-10	988,000	24,403.60
Infusion Set, filter, 150 cm, inj.site ABS Reg., needle 21Gx 1.5, 20 drops/ml, air inlet, each	Dec-10	45,000	4,050.00
Safety Box, used needles/syringes, 5 L volume, inflammable, each	Dec-10	900	342.00
Quinine sulphate (tablets) 300mg	Dec-10	900,000	28,236.00
I.V. Cannulae 18G, w/port, w/wings, each	Dec-10	45,000	4,500.00
Gloves, Examination, latex, slightly powdered, large, disposable, box of 100	Dec-10	22,500	758.25
Dextrose 5% Bottle of 250 ml - Nipplehead, bottle	Dec-10	22,500	7,425.00
I.V. Cannulae 22G, w/port, w/wings, each	Dec-10	45,000	4,950.00
Quinine di-HCl (injectable) 600mg/2ml, pack of 100	Dec-10	45,000	8,950.50
I.V. Cannulae 24G, w/port, w/wings, each	Dec-10	45,000	4,950.00
I.V. Cannulae 24G, w/port, w/wings, each	Dec-10	34,500	3,795.00
Syringe disp. 5 ml, 3- part w/needle - 21G x 1 1/2, pk 100	Dec-10	34,500	872.85
I.V. Cannulae 22G, w/port, w/wings, each	Dec-10	34,500	3,795.00
I.V. Cannulae 18G, w/port, w/wings, each	Dec-10	34,500	3,450.00
Infusion Set, filter, 150 cm, inj.site ABS Reg., needle 21Gx 1.5, 20 drops/ml, air inlet, each	Dec-10	34,500	3,105.00
Dextrose 5% Bottle of 250 ml - Nipplehead, bottle	Dec-10	17,250	5,692.50
Gloves, Examination, latex, slightly powdered, medium, disposable, box of 100	Dec-10	34,500	1,162.65
Quinine di-HCl (injectable) 600mg/2ml, pack of 100	Dec-10	34,500	6,862.05
Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 1000treatments	Dec-10	758,000	18,722.60
Quinine sulphate (tablets) 300mg	Dec-10	460,000	21,647.60

	Dextrose 5% Bottle of 500 ml - Nipplehead, bottle	Dec-10	17,250	5,347.50
	Safety Box, used needles/syringes, 5 L volume, inflammable, each	Dec-10	690	262.20
	Gloves, Examination, latex, slightly powdered, large, disposable, box of 100	Dec-10	17,200	579.64
	Gloves, Examination, latex, slightly powdered, small, disposable, box 100	Dec-10	17,300	583.01
	Safety Box, used needles/syringes, 5 L volume, inflammable, each	Dec-10	1,080	410.40
	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 1000treatments	Dec-10	1,195,000	29,516.50
	I.V. Cannulae 18G, w/port, w/wings, each	Dec-10	54,000	5,400.00
	Dextrose 5% Bottle of 500 ml - Nipplehead, bottle	Dec-10	27,000	8,370.00
	Quinine di-HCl (injectable) 600mg/2ml, pack of 100	Dec-10	54,000	10,740.60
	Infusion Set, filter, 150 cm, inj.site ABS Reg., needle 21Gx 1.5, 20 drops/ml, air inlet, each	Dec-10	54,000	4,860.00
	Gloves, Examination, latex, slightly powdered, medium, disposable, box of 100	Dec-10	54,000	1,819.80
	Dextrose 5% Bottle of 250 ml - Nipplehead, bottle	Dec-10	27,000	8,910.00
	Gloves, Examination, latex, slightly powdered, large, disposable, box of 100	Dec-10	27,000	909.90
	Syringe disp. 5 ml, 3- part w/needle - 21G x 1 1/2, pk 100	Dec-10	54,000	1,366.20
	Quinine sulphate (tablets) 300mg	Dec-10	720,000	33,883.20
	Gloves, Examination, latex, slightly powdered, small, disposable, box 100	Dec-10	27,000	909.90
	I.V. Cannulae 24G, w/port, w/wings, each	Dec-10	54,000	5,940.00
	I.V. Cannulae 22G, w/port, w/wings, each	Dec-10	54,000	5,940.00
				330,010.00
Ethiopia	Drying Slide Rack, 40 slide capacity, each	Nov-10	120	4,800.00
	Hematocrit Tube Sealant, each	Nov-10	2,000	2,751.20
				7,551.20
Ghana	Filter holder for microscope CX21, each	Nov-10	160	896.00
	Microscope with Objectives W/4, 10, 40, 100 X Plan OB, each	Nov-10	160	131,040.00
	Bulb, halogen light, for Microscope CX21, each	Nov-10	160	1,008.00
	Mirror unit, for Microscope CX21, each	Nov-10	160	2,688.00
	Darkfield Central Stop, CH2-DS, for microscope CX21, each	Nov-10	160	672.00
	Plug, for microscope CX21, 3-Pin rectangular, Blade plug, each	Nov-10	160	2,484.00
	Cord, power for microscope CX21 for 220 V, each	Nov-10	160	2,128.00
	Bed Net, Polyester, Deltamethrin, 75dn, (180x190x150), white, rectangular, piece	Nov-10	737,000	2,667,940.00
	Bed Net, Polyester, Deltamethrin, 75dn, (180x190x150), light blue, rectangular, each	Nov-10	737,000	2,797,652.00
	Light for Microscope, Flexible, LED, Each	Dec-10	160	11,409.60
	Kit, microscopy, malaria [Microscopy Kit Ghana], unit	Dec-10	80	194,258.04
	Test, Rapid Diagnostic Malaria, HRP2 (pf) [CareStart], 40 kits	Dec-10	725,600	464,384.00
				6,276,559.64
Kenya	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	300,000	108,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	300,000	216,000.00

	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	150,000	162,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	750,000	975,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	246,480	320,424.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	86,160	93,052.80
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	176,160	126,835.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	621,600	223,776.00
	Test, Rapid Diagnostic Malaria, HRP2 (pf) [CareStart], 40 kits	Nov-10	110,600	72,996.00
	Test, Rapid Diagnostic Malaria, HRP2 (pf) [CareStart], 40 kits	Dec-10	437,200	279,808.00
	Box, Wooden For Microscope CX21, each	Feb-11	200	21,080.00
	Cover, Dust, Hood Type for CX Microscopes, each	Feb-11	200	1,360.00
	Plug, for microscope CX21, 3-Pin rectangular, Blade plug, each	Feb-11	200	4,800.00
	Microscope CX21 LED with Objectives W/4, 10, 40, 100 X Plan OB, each	Feb-11	200	172,930.00
	Mirror unit, for Microscope CX21 LED, each	Feb-11	200	3,264.00
	Darkfield Central Stop, CH2-DS, for microscope CX21 LED, each	Feb-11	200	816.00
	Bulb, halogen light, for Microscope CX21 LED, each	Feb-11	200	1,224.00
	Filter holder for microscope CX21 LED, each	Feb-11	200	1,088.00
	Cord, power for microscope CX21 LED for 220 V, each	Feb-11	200	2,584.00
	Bed Net, Polyethylene, Permethrin, [FREENET] 150dn, (160x190x210cm), blue, rectangular, each	Mar-11	2,212,500	9,602,250.00
				12,389,288.00
Liberia	Test Tubes, Disposable Plastic, Round bottom, Translucent polypropylene, O.D 12 x 75 mm, pack of 1000 tubes	Oct-10	200,000	4,927.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette,[ParaCheck] Kit 25tests	Nov-10	600,000	372,000.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette,[ParaCheck] Kit 25tests	Nov-10	600,000	372,000.00
	Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	Nov-10	58,175	15,707.25
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	Nov-10	176,100	156,869.88
	Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	Nov-10	179,775	94,633.56
	Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	Nov-10	157,550	55,268.54
	Bed Net, Polyester, Deltamethrin, 75dn, (180x190x150), white, rectangular, piece	Nov-10	350,000	1,271,550.00
	Quinine di-HCl (injectable) 600mg/2ml, pack of 100	Dec-10	100,000	20,290.00
	IM Artemether (injectable). 80mg/ml (ADULT)	Dec-10	130,000	101,296.00
	IM Artemether (injectable) 20mg/ml (PEDIATRIC)	Dec-10	220,000	112,090.00
	Quinine sulphate (tablets) 200mg	Dec-10	400,000	15,564.00
	Quinine sulphate (tablets) 300mg	Dec-10	1,000,000	49,700.00
	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle,	Dec-10	256,000	5,606.40

	1000treatments			
	Printer, Digital, laser [Beckman Coulter A83080], each	Feb-11	1	493.95
	Hematology Analyser, Model AC*T DIFF 2 [Beckman Coulter 6605540], each	Feb-11	1	14,130.00
	Cell control tripack, Hematology Analyser, Model AC*T DIFF 2, [Beckman Coulter 7547188], 3 bottles of 3.3ml, each	Feb-11	1	131.50
	Reagent Kit, Hematology Analyser, Model AC*T DIFF 2, [Beckman Coulter 8547134], each	Feb-11	1	284.00
	Rinse Shutdown Diluent, Hematology Analyser, Model AC*T DIFF 2, [Beckman Coulter 8547113], bottle of 500ml, each	Feb-11	1	42.50
	Lancet, safety blood, retractable, gauge 23G, box of 200 each	Feb-11	400,000	11,460.00
	Voltage, regulator, automatic, 3000 Watts, [SVC3000], each	Feb-11	60	10,041.60
	Timer, stop watch digital, each	Feb-11	100	510.00
	Incubator, microprocessed control ,[Boekel 138225-2], 230V, each	Feb-11	60	54,717.60
	Waterbath, serological, digital, Precision 51221051, model 283, 230 V, each	Feb-11	10	9,100.00
	Box, for microscopy slide storage, plastic, 100 slide capacity, 76x26mm, each	Feb-11	500	1,785.00
	Thermometer, laboratory, [M20], each	Feb-11	30	104.10
	Spectrophotometer, microprocessor, [Spectro 23], each	Feb-11	1	1,612.50
	Frame, Microscope, BX53 with halogen transmitted light, [BX53TF], each	Mar-11	2	5,448.50
	Cord, Power for Microscope BX53, [UYCP-11], each	Mar-11	4	45.24
	Eyepiece for Microscope BX53 10X For BX, IX HI Eyepoint, [2-U1006], Ret Shelf, FN:22, each	Mar-11	12	1,983.60
	Eyepiece for Microscope BX53 10X Foc. BX, IX HI Eyepoint, [2-U100H5], Ret Shelf, FN:2, ea	Mar-11	8	1,572.96
	Objective for Microscope, Plan Achromat 40X , NA0.65 WD0.6mm, [1-U2B057], each	Mar-11	2	492.42
	Objective for Microscope, Plan Achromat 4X , NA0.10 WD19mm, [1-U2B052], each	Mar-11	2	133.98
	Objective for Microscope, Plan Achromat 10X , NA0.25 WD10.5mm, [1-U2B053], each	Mar-11	2	224.46
	Adapter CCD Camera for Microscope BX53, [U-V1063C27] 0,63X Lens, C-Mount Thread, each	Mar-11	2	1,087.50
	Bulb, Halogen, 12V/100W, [8-CC406] for Microscope BX53, ea	Mar-11	2	66.12
	Arm, Standard, [5-UR730] for Microscope BX53, each	Mar-11	2	346.26
	Software, imaging system, digital camera, [7-DCS-ETY] for microscope BX53, each	Mar-11	2	1,181.50
	Camera, Digital DP72, 12.8MP, [7-D706], for microscope BX53, each	Mar-11	2	13,518.40
	Tube Observer, for Microscope BX53, TRINOC, 100:0,80:20,0:100% Positions, [3-U234], each	Mar-11	2	2,946.10
	Tube Observer for Microscope BX53, [3-U224], each	Mar-11	8	6,291.04
	Tube Optical Relay Multiviewing for Microscope BX53, Accept 20OBSTBS, [U-DO301], each	Mar-11	4	6,894.56
	Unit Multi Observer for Microscope BX53 [U-DO205], each	Mar-11	2	4,596.80
	Objective for Microscope, Plan Achromat 10X , NA0.25 WD10.5mm, each	Mar-11	100	6,216.00
	Objective for Microscope, Plan Achromat 40X , NA0.65	Mar-11	50	6,907.00

WD0.6mm, each				
Objective Oil for Microscope, Plan Achromat 100X , NA1.25 WD0.15mm, each	Mar-11	100	19,339.00
Bulb, halogen light, for Microscope CX21, each	Mar-11	539	3,880.80
Mirror unit, for Microscope CX21, each	Mar-11	99	1,900.80
Filter holder for microscope CX21, each	Mar-11	39	249.60
Darkfield Central Stop, CH2-DS, for microscope CX21, each	Mar-11	39	187.20
Microscope CX21FS1, w/ Objectives W/4, 10, 40, 100 X Plan OB, each	Mar-11	39	36,504.00
Lamphouse, Halogen 12V,100W for Microscope BX53, [5-UL122], each	Mar-11	2	999.60
Long Stalk, for Microscope BX53, Right Hand Mechanical Stage, Rackless, [4-U130], each	Mar-11	2	858.50
Thick for Microscope BX53, Left Release Slide Holder, Double Slide, [4-U142], each	Mar-11	2	73.10
Abbe Condenser, for Microscope BX53, NA 1.1, 4X-100X Coverage, [6-U111], each	Mar-11	2	283.90
Nosepiece, for Microscope BX53 Reverse, Analyzer Slot, RMS Thread, [U-R156], each	Mar-11	2	1,178.10
Objective Oil for Microscope, Plan Achromat 100X , NA1.25 WD0.15mm, [1-U2B235], each	Mar-11	2	1,402.50
Cover, Dust, for multi observ. setups, [COVER002], each	Mar-11	2	42.50
Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	Mar-11	141,250	74,354.00
Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	Mar-11	45,700	12,339.00
Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	Mar-11	133,350	118,788.18
Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	Mar-11	123,775	43,420.27
Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 3 per blister, 25 blisters per pack	Mar-11	654,000	344,265.60
Artesunate/Amodiaquine, FDC, 100mg/270mg, tablet, 6 per blister, 25 blisters per pack	Mar-11	1,183,000	1,053,816.40
Artesunate/Amodiaquine, FDC, 25mg/67.5mg, tablet, 3 per blister, 25 blisters per pack	Mar-11	125,000	33,750.00
Artesunate/Amodiaquine, FDC, 50mg/135mg, tablet, 3 per blister, 25 blisters per pack	Mar-11	388,000	136,110.40
Analyzer, chemistry, [Pictus 200], includes installation, service warranty & training, each	Mar-11	1	22,832.50
Refrigerator, LR1400, includes installation, service warranty & training, each	Mar-11	10	38,325.00
Hotplate, 7x7, aluminum, Isotemp, control to 380 degrees Celsius, each	Mar-11	10	2,324.70
Meter, Ph/mV, temperature, Orion 2-Star with electrodes, power supply and instruction manual, each	Mar-11	60	26,937.60
Bottles Wash, LDPE 250 ml, with screw closure, each	Mar-11	252	325.91
Pipets, serological, glass disposable, with regular tip, 10x1/10ml, case of 500	Mar-11	500	125.99
Capillary Tubes, Glass, Blue, Tip, length 75mm, diam. 1.1-1.2 mm, pack of 200 tubes	Mar-11	60,000	411.00
Sealant, hematocrit tube, pack of 10	Mar-11	300	3,912.00

	Rack, staining, slide, each	Mar-11	100	4,402.00
	Centrifuge, medium, table top, with rotor and adapters, each	Mar-11	10	42,275.20
	Centrifuge, manual, with swing-out rotor, each	Mar-11	30	8,662.50
	Centrifuge, Hemastat II Cent, [100-100], with batteries, each	Mar-11	25	48,253.00
	Balance, Top, Capacity 410 gr., [MXX-412.1], each	Mar-11	25	6,082.50
	Balance, Harvard, Double beam with plates, capacity 2000 gr., [1550-SD], each	Mar-11	25	3,855.50
	PCR, Gold 96 Well GeneAmp System 9700, includes installation, service warranty & training, each	Mar-11	1	11,754.88
	Tally, manual counter, four figures with caplier, each	Mar-11	100	414.00
	Slides for Microscopes, ground edges, side frosted, 75x25x1 mm, pack of 144	Mar-11	100,080	9,264.35
	Pipets, serological, glass disposable, with regular tip, 1x1/100ml, case of 500	Mar-11	500	73.27
	Pipets, serological, glass disposable, with regular tip, 5x1/10ml, case of 500	Mar-11	500	83.55
	Trough for Staining with cover for 20 slides, each	Mar-11	200	1,368.00
	Sealant, hematocrit tube, pack of 10	Mar-11	25,000	37,075.00
	Filler, pipette, each	Mar-11	250	6,912.50
	Centrifuge Hematocrit with rotor and reader, each	Mar-11	10	7,804.90
	Colorimeter, digital, battery operated w/ set of filters, includes installation, service, warranty and training	Mar-11	1	1,284.00
	Reagents, colorimeter, box of 400 pieces	Mar-11	60,000	5,256.00
	Distillator with tank (10 Gal.), ventgard, UV Lamp, and brackets, includes installation, service, warranty and training	Mar-11	10	121,392.70
	Sterilizer, automatic, 40L, with wire basket, half and full stainless steel basket, includes installation, service, warranty and training	Mar-11	10	88,833.30
	Capillary Tubes, Glass, micro hematocrit, pack of 1,000 tubes	Mar-11	25,000	524.25
	Reader, microhematocrit, each	Mar-11	25,000	3,970.00
				5,200,347.37
Malawi	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Nov-10	107,520	38,707.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Nov-10	107,520	77,414.40
	Bed Net, Polyethylene, Permethrin, [CHITETEZO] 150dn, (190x180x150cm), green, rectangular, each	Feb-11	400,000	1,460,000.00
	Bed Net, Polyethylene, Permethrin, [CHITETEZO] 150dn, (190x180x150cm), green, rectangular, each	Feb-11	340,500	1,242,825.00
	Bed Net, Polyethylene, Permethrin, [CHITETEZO] 150dn, (190x180x150cm), green, rectangular, each	Feb-11	400,000	1,460,000.00
	Bed Net, Polyethylene, Permethrin, [CHITETEZO] 150dn, (190x180x150cm), green, rectangular, each	Feb-11	519,200	1,895,080.00
				6,174,026.60
Mali	Bed Net Polyester, Deltamethrin 100dn (170X190X180) white rectangular, each	Nov-10	1,540,000	6,752,900.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Nov-10	92,160	66,355.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Nov-10	130,560	47,001.60
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack,	Nov-10	95,040	123,552.00

	30treatments			
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Nov-10	51,840	55,987.20
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Nov-10	95,040	123,552.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Nov-10	51,840	55,987.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Nov-10	130,560	47,001.60
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Nov-10	92,160	66,355.20
				7,338,692.00
Mozambique	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	276,480	298,598.40
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	340,020	244,814.40
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	800,640	1,040,832.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	604,620	435,326.40
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Nov-10	552,960	199,065.60
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Nov-10	230,400	248,832.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Mar-11	249,120	71,746.56
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Mar-11	1,095,840	946,805.76
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Mar-11	179,040	186,201.60
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Mar-11	715,680	206,115.84
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Mar-11	534,720	461,998.08
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Mar-11	566,880	589,555.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Mar-11	249,600	143,769.60
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Mar-11	218,760	227,510.40
	Test, Rapid Diagnostic Malaria, pf Device, Cassette, Kit 25tests	Mar-11	2,500,000	1,150,000.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette, Kit 25tests	Mar-11	2,500,000	1,150,000.00
				7,601,171.84
Rwanda	Test, Rapid Diagnostic Malaria, PLDH/HRP2 [First Response Malaria] kit, 30 tests	Dec-10	200,010	210,010.50
	Reagent, Azur Eosin Methylene Blue Giemsa Solution, Bottle 500ml, each	Feb-11	5,000	35,400.00
	Oil immersion, 518 N, 23 Degrees C halogen free, bottle of 100 ml	Feb-11	5,000	59,200.00
	Bed Net, Polyethylene, Deltamethrin, 115 denier, 1250X65X250, white,conical, each	Mar-11	200,000	1,118,600.00
	Bed Net, Polyethylene, Deltamethrin, 115 denier, 180X190X180, light blue, rectangular, each	Mar-11	80,000	349,104.00

	Bed Net, Polyethylene, Deltamethrin, 115 denier, 1250X65X250, white,conical, each	Mar-11	110,000	790,900.00
				2,563,214.50
Senegal	Bed Net, Polyester, Deltamethrin, 100dn, (190x180x150), white, rectangular, piece	Dec-10	1,710,000	6,927,210.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Dec-10	10,800	7,776.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Dec-10	10,800	3,888.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Dec-10	19,200	24,960.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Dec-10	19,200	20,736.00
	Filter holder for microscope CX21, each	Dec-10	50	300.00
	Darkfield Central Stop, CH2-DS, for microscope CX21, each	Dec-10	50	225.00
	Cables, with european plug adaptors, each	Dec-10	50	280.50
	Cover, Dust, Hood Type for CX Microscopes, each	Dec-10	50	375.00
	Box, Wooden For Microscope CX21, each	Dec-10	50	5,812.50
	Microscope with Objectives W/4, 10, 40, Plan OB, each	Dec-10	50	44,737.50
	Cord, power for microscope CX21 for 230 V, each	Dec-10	50	712.50
	Mirror unit, for Microscope CX21, each	Dec-10	50	900.00
	Bulb, halogen light, for Microscope CX21, each	Dec-10	50	337.50
	Tally, manual counter, four figures with caplier, each	Dec-10	100	1,092.00
	Tissue Paper, for Lens, 500 sheets, pack	Dec-10	500,000	2,940.00
	Measuring pipettes, clear glass, fill delivery, 1:1/100ml, amber graduation, each	Dec-10	1,200	2,340.00
	Handle, wire, for Staining Tray, each	Dec-10	100	111.00
	Jar for Staining Colpin type, each	Dec-10	200	1,098.00
	Trough for Staining with cover 105x85x80 mm, each	Dec-10	100	531.00
	Tray, staining, for 10 microslides, each	Dec-10	100	420.00
	Measuring cylinder, DURAN, tall form with hexagonal base, amber graduated, 100ml, each	Dec-10	100	686.00
	Measuring cylinder, DURAN, tall form with hexagonal base, amber graduated, 500ml, each	Dec-10	100	1,726.00
	Washing bottles, polyethylene, 250ml, each	Dec-10	100	105.00
	Dish, staining, Schiefferdecker, each	Dec-10	100	511.00
	Slides for Microscopes, cut edges, 76 x 26 x 1/1.2-1.5 mm, box of 50	Dec-10	27,500	1,047.20
	Measuring pipettes, clear glass, fill delivery, 10:1/10ml, amber graduation, each	Dec-10	1,200	2,856.00
	Measuring pipettes, clear glass, fill delivery, 5:1/20ml, amber graduation, each	Dec-10	1,200	2,784.00
	Light for microscope, flexible neck large, LED, model LL7584, w/2 sets of batteries, each	Dec-10	50	562.50
	Hair Dryer, heady duty, 400 watts, 220V power, each	Jan-11	50	1,005.00
	Reagent, Azur Eosin Methylene-Blue Giemsa Solution, bottle of 100 mL	Jan-11	100	326.00
	Oil immersion, 518 N, 23 Degrees C halogen free, bottle of 100 ml	Jan-11	100	696.00

	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Jan-11	112,080	80,697.60
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Jan-11	81,360	29,289.60
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Jan-11	182,400	196,992.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Jan-11	234,240	304,512.00
				7,670,578.40
Sudan	Test, Rapid Diagnostic Malaria, Ag HRP2 [First Response Malaria] kit, 30 tests	Nov-10	117,000	64,350.00
				64,350.00
Tanzania	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	60,000	43,200.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	180,000	64,800.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	300,000	390,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	300,000	324,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	300,000	216,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	600,000	216,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	750,000	270,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	600,000	780,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	180,000	194,400.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	300,000	216,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	374,880	487,344.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	139,800	150,984.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	761,880	274,276.80
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	256,260	184,507.20
	Test, Rapid Diagnostic Malaria, Ag pf/pan POCT comb [SD Bioline], 25 tests	Dec-10	117,000	91,260.00
				3,902,772.00
Uganda	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	420,000	151,200.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	600,000	780,000.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	135,000	97,200.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	135,000	145,800.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Oct-10	350,400	455,520.00

	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Oct-10	135,720	146,577.60
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Oct-10	141,480	101,865.60
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Oct-10	167,520	60,307.20
	Test, Rapid Diagnostic Malaria, pf Device, Cassette,[SD Bioline] Kit	Dec-10	892,500	508,725.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette,[SD Bioline] Kit	Dec-10	382,500	218,025.00
	Bed Nets, Polyethylene, Deltamethrin, 118 denier, 160x180x210, light blue, rectangular	Dec-10	709,000	3,474,100.00
				6,139,320.40
Zambia	Bed Net, Polyester, Deltamethrin, 75dn, (160x180x170), white, rectangular, each	Oct-10	1,000,000	3,744,000.00
	Oil immersion, bottle of 100 ml	Nov-10	400	2,784.00
	Slides for Microscopes, ground edges, clear glass, 76x26x1/1.2 mm, box of 50	Nov-10	150,000	1,860.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette, Kit 25tests	Nov-10	1,127,050	574,795.50
	Test, Rapid Diagnostic Malaria, pf Device, Cassette, Kit 25tests	Nov-10	1,127,050	574,795.50
	Bulb, halogen, 6V30W for Microscope CX31, each	Nov-10	15	216.00
	Filter holder for microscope CX31, each	Nov-10	15	96.00
	Plug, for microscope CX31, 3-Pin rectangular, Blade plug, each	Nov-10	15	232.95
	Cord, power for microscope CX31 for 220 V, each	Nov-10	15	228.00
	Cover, Dust, Hood Type for CX Microscopes, each	Nov-10	15	120.00
	Microscope CX31 with Objectives W/4, 10, 40, 100 X Plan OB, each	Nov-10	15	23,568.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Nov-10	504,480	181,612.80
	Bed Net, Polyester, Deltamethrin, 75dn, (160x180x170), white, rectangular, each	Nov-10	500,000	1,754,000.00
	Bed Net, Polyester, Deltamethrin, 75dn, (160x180x170), white, rectangular, each	Nov-10	900,000	3,337,200.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Dec-10	172,800	186,624.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Dec-10	1,190,400	428,544.00
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Dec-10	184,320	132,710.40
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Dec-10	51,840	67,392.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Dec-10	132,480	172,224.00
	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, 300 tablets x pack, blisters, 100 x 3 tablets	Jan-11	6,844,800	166,328.64
	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, 300 tablets x pack, blisters, 100 x 3 tablets	Jan-11	2,405,100	58,443.93
	Sulfadoxine/Pyrimethamine 500mg/25mg, Pill, Bottle, 1000treatments	Jan-11	6,750,000	132,840.00
	Test, Rapid Diagnostic Malaria, pf Device, Cassette, Kit 25tests	Mar-11	1,350,000	688,500.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Mar-11	449,280	584,064.00

	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Mar-11	300,720	390,936.00
				13,204,115.72
Zimbabwe	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Feb-11	91,260	65,707.20
	Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Feb-11	147,420	53,071.20
	Artemether/Lumefantrine 20mg/120mg, Pill,6x4Blister Pack, 30treatments	Feb-11	443,040	575,952.00
	Artemether/Lumefantrine 20mg/120mg, Pill,6x3Blister Pack, 30treatments	Feb-11	62,400	67,392.00
				762,122.40
Total Value				**93,579,260.85**

Appendix B

DFID-Funded Procurement

Procurement for Zambia, October 1, 2010–March 31, 2011
U.K. Department for International Development (DFID)

The USAID | DELIVER PROJECT, Task Order 3 (Malaria) procured malaria commodities for Zambia using funding from the U.K. Department for International Development (DFID). With DFID funding, we procured 1 million LLINs, 2,349,360 ACT treatments; 7 million SP tablets; and 1, 350, 000 RDTs, for a total value of $7.1 million (includes commodity, freight, insurance, and quality assurance costs).

Table 1. Malaria commodities procured using DFID funding 01-Oct-2010 through 31-Mar-2011

Item Description	PO#	Quantity	Total Value	Delivery Status
BedNet,Polyester,Deltamethrin	PO-PUP - 461	1,000,000	$3,987,851.00	Delivered
Artemether/Lumefantrine 6x3	PO-PUP - 517	172,800	$224,278.30	Delivered
Artemether/Lumefantrine 6x1Dsp	PO-PUP - 521	1,190,400	$72,001.23	Due May
Artemether/Lumefantrine 6x2Dsp	PO-PUP - 521	184,320	$534,385.63	Due May
Artemether/Lumefantrine 6x4	PO-PUP - 521	51,840	$149,100.24	Due May
Sulfadoxine/Pyrimethamine	PO-PUP - 531	2,405,100	$71,465.49	Delivered
Sulfadox/Pyrimeth 500mg/25mg,	PO-PUP - 537	6,750,000	$172,443.18	Delivered
RDT Malaria pf Device ICT	PO-PUP - 556	1,350,000	$715,002.94	Due June
Artemether/Lumefantrine 6x4	PO-PUP - 561	449,280	$701,907.38	Due May
Artemether/Lumefantrine 6x4	PO-PUP - 562	300,720	$469,813.01	Due May
		Total:	$7,098,248.40	
			£4,486,599.08	

Quality assurance testing on products procured with DFID funds

The Quality Assurance team arranged for inspection and testing of one order of LLINs that was procured using DFID funds. Crown Agents did the sampling and inspection. FHI reviewed the inspection results and released the order for shipment. PSB-Singapore performed mechanical and chemical testing, concurrently with shipping. All test results were compliant with WHO and USAID standards; they were available within 30 days of sampling.

Vimta Labs tested three batches of SP pre-shipment. FHI verified that all test results were compliant with international standards and they released the product for shipment.

FHI reviewed Novartis' Certificates of Conformance for two orders of Coartem, for a total of seven batches. All results met the manufacturer's specifications. No pre-shipment testing was performed,

because Coartem is an FDA-approved product. Within the next six months, samples of these batches will be scanned with near-infrared (NIR) spectroscopy, as part of the routine quality assurance check for active ingredients and lot-to-lot consistency. FHI will also perform analytical testing of these samples for the amount of active ingredients.

Financial Statement

Contract Number: GPO-I-03-06-00007-00
Vendor Name: John Snow, Inc.
Program: USAID | DELIVER PROJECT, Task Order 3
Country of Service: Zambia/DFID

Reporting Period:	From: January 10, 2011	To: March 31, 2011
Total Funding from DFID Received into the USAID | DELIVER PROJECT:		£4,558,685.92
Total Funding Spent by the USAID | DELIVER PROJECT:		£4,486,599.08
Current Balance Remaining:		£72,086.85

*This is a best estimate of expenditures, to date, as we may not have received some actual invoices.
**The total costs above include the cost of the commodity, freight, insurance, and QA testing (if applicable).

Funding Received into the USAID | DELIVER PROJECT Mod 19, January 10, 2011 (USD)	$7,212,297.00
Exchange Rate	1.5821

*Exchange rate from October 6, 2010, the date of funds transfer

Appendix C

WHO/FIND RDT Lot Testing Report

Document type: **report**	**LOT TESTING REPORT**
Confidentiality: confidential	

Purchase order number: 029217 Consignee of the report: JOHN SNOW, INC

Activity Manager: Steve Hamel Project activity#: 15483.0001.0001_20APR11

Author of the report: FIND Foundation For Innovative New Diagnostics

Description of the PO: To provide malaria rapid diagnostic test (RDT) quality assurance lot-testing services in two reference laboratories, at the Research Institute for Tropical Medicine (the Philippines) and the Pasteur Institute (Cambodia), as of January 26,2011 to January 25, 2012. This agreement for USD 250000 of estimated USD410000 costs of lot-testing therefore covers approximately 60% of total costs.

Date covered by the PO: as of January 26,2011 to January 25, 2012

Period of report: January 26,2011 to March 25, 2011

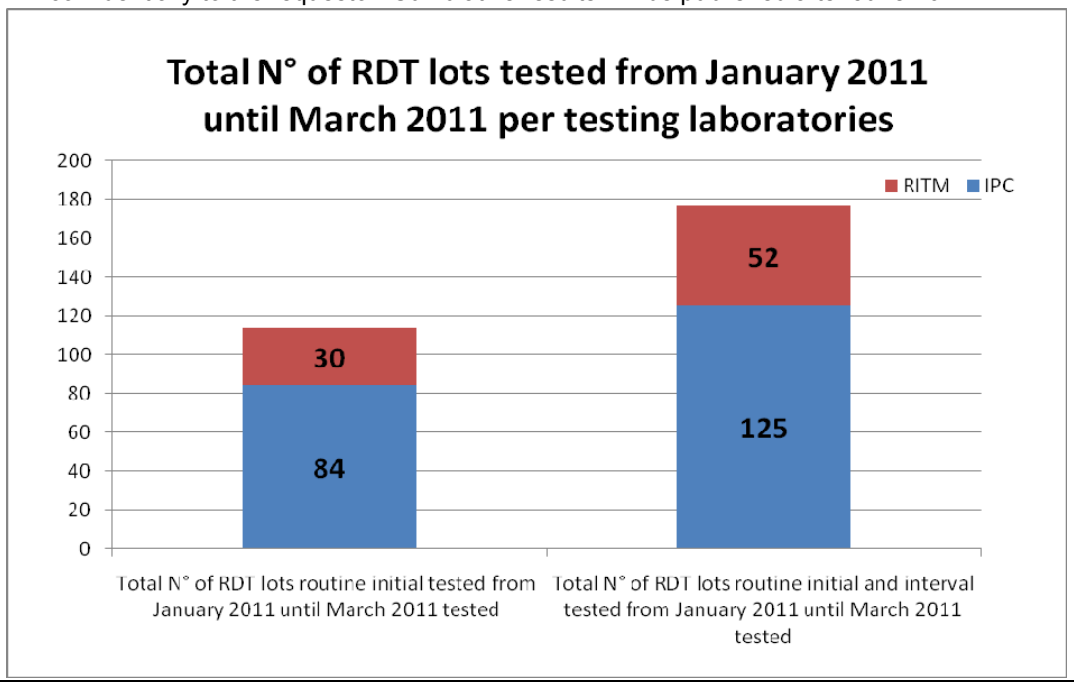
Date of report: April 18, 2011. Revised June 02, 2011.

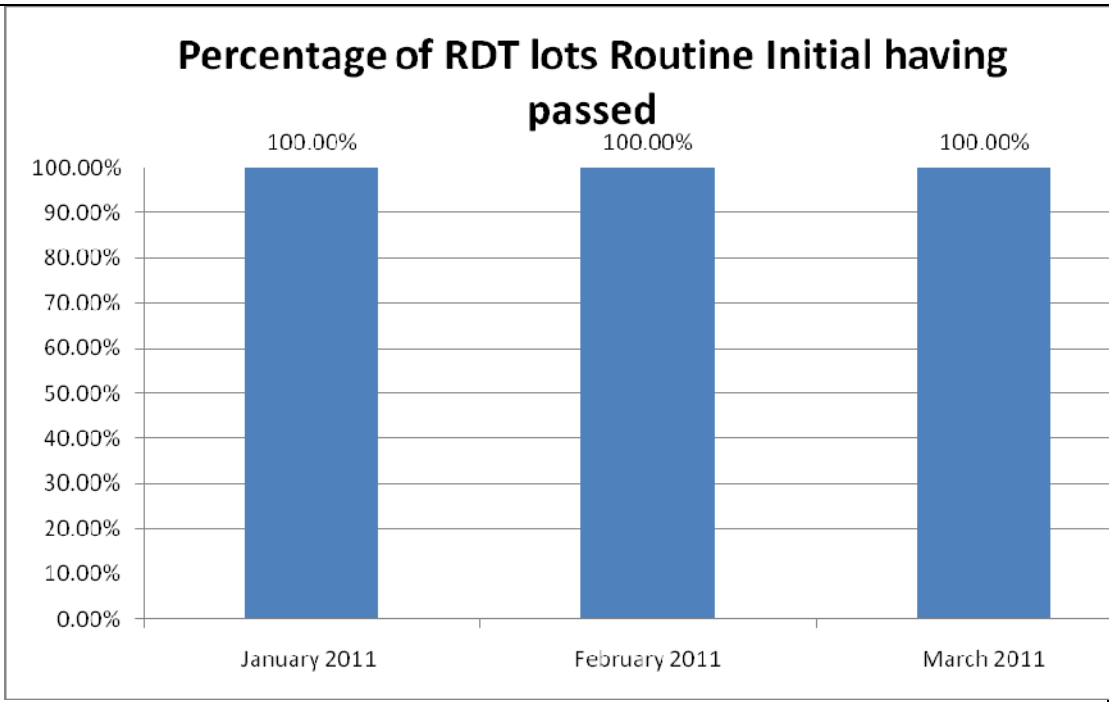
1. Lot testing summary per site as of January 26, 2011 to March 25, 2011

   114 RDT lots submitted to both testing laboratories for routine, initial testing, including 55 from PMI projects.

   177 RDT lots submitted to both testing laboratories for routine initial and interval testing, including 71 from PMI.

   1 RDT lot failed during the 18 month testing in January 2011 and results were passed confidentially to the requestor. Cumulative results will be published after June 2011.





N.B. Since a RDT lot is counted Pass or Failed the year when it was received by the testing laboratory for Quality Control testing, the Pass rate may vary when a failure is detected during the interval testing- i.e. 1 RDT lot failed during the 18 month testing in January 2011, since it was received in 2008, it is counted as a failed RDT lot in 2008 (the year when it was received) and not in 2011.

2. Lot testing database

   For the time being the testing sites are entering all the Quality control testing details and results in a word report result form.

   A Lot testing Access Data Base has been developed for a controlled entry of all lot testing data and issue of electronic lot testing reports at each testing laboratory. The database also facilitates the follow-up of the activities and workload at the central level.

   After various rounds of trials and improvements, the database is now about to be launched.

3. EQA and follow-up visits
   The annual EQA visits at each lot testing lab have been scheduled for last week of May and all arrangements are being done. The EQA assessment covers general items like safety, infrastructure and documents management, as well as the quality of all project specific activities (management of RDT lots, panel samples, testing, reporting, etc.).

   Follow-up visits in each lab by FIND Geneva staff will also be done at each site, for on-site discussion of the workload, issues, and refresher trainings if needed.

4. Proficiency panels

   The proficiency testing panels of RDT quality control samples and evaluation of malaria RDTs are under preparation at HTD (Hospital for Tropical Disease). An initial lot-testing screening of the tests is performed, then half of the tests are kept at 4°C and the other half is incubated at high temperature to degrade the RDTs to a point where they should fail routine lot-testing.

   HTD is using the Carestart Malaria pLDH (Pf/PAN) 3-line test for this round of proficiency panel preparation so that the proficiency testing can be carried out with both *P. falciparum* and *P. vivax* QC samples at the two lot-testing laboratories. As of now, the RDTs incubated showed a very faint

test line band and will continue to be heated until sufficient degradation is noted. Degraded and non-degraded RDTs will then be sent as proficiency panels to the lot-testing laboratories for blinded testing.

5. Stock RDTs

   The testing sites need a stock of reference RDTs of good quality, for monitoring of the panel samples in case of failure of lot RDTs. A replenishment of the stock RDTs was required in February at both sites. An initial testing was carried out on these lots upon receipt showed that the RDT lot received at IPC failed at Pv 200 parasites/µl. The manufacturer replaced them FOC.

6. Stocks of panel samples are running low at RITM, and will need replenishment later this year at IPC. RITM plans a specimen collection in June 2011, after which characterization will be performed at USCCD and HTD in London.

7. Equipment:

   A new incubator will be purchased in the second quarter for IPOC, to manage the increasing workload. It is expected an additional incubator will be purchased for RITM later this year.

8. Workload issues:

   Alternative protocols are being considered for interval testing to reduce space and personnel requirements, and these will be drafted and discussed with JSI and other major users at the Steering Committee meeting in 2011 to gain consensus with users on the best approach to manage increasing workloads whilst providing the needed information on tests and maintaining low overall costs.

9. Requesters

   The major requestors of lot-testing continue to be US PMI, and country programs in SE Asia, but an increase in requests from other country programs recently reflects the recommendations of the Global Fund that lot-testing be performed, Most manufacturer requests arise from pre-procurement lot-testing requests from procurement agencies. This is now the common mode of lot-testing for USAID. In such cases, FIND is unable to track the intended user fo the lot unless the user makes prior arrangement with the requestor (the manufacturer) to be included in the request form. A small number of requests for non-routine testing are received from field programmes to test RDTs withdrawn from the field, and very few form manufacturers requesting to ensure products newly modified are of appropriate sensitivity. These latter are dealt with on a case by case basis, and accepted if the products are commercially available, less than 5 being received in 2011.

Requesters having submitted RDTs for routine and non routine lot testing January 2011 until March 2011	**% of RDT lots submitted**
Government Aid and Procurement Agencies (non endemic countries)	57.7%
Non-Governmental Organizations (NGOs) and Research Institutions	0.8%
National Malaria Control Programmes / WHO / UNICEF	8.1%
RDT manufacturers (for routine pre-shipment and non-routine testing)*	33.3%

More than half of the requests came from procurement agencies, followed by requests from RDT manufacturers.

10. Contract renewal

    The Technical Services Agreements have been recently extended for both sites (RITM and IPC).

Appendix D

Selected RDT Manufacturers

Manufacturer	Test Name	Target Antigen	Species	Comments
Access Bio	CareStart	HRP2	Pf	
	CareStart	HRP2/pLDH	Pf	
	CareStart Combo	HRP2/pLDH	Pf/PAN	PAN = All Plasmodium species
	CareStart Combo	HRP2/pLDH	Pf/Pv	
	CareStart Combo	HRP2/pLDH	Pf/VOM	VOM = Vivax, Ovale, Malariae,
Alere-Inverness	Binax Now	HRP2	Pf/PAN	
ICT	Malaria Pf Casette	HRP2	Pf	
	Malaria Combo Cassette	HRP2/pLDH	Pf/PAN	
Orchid Biomedical	Paracheck Pf Device	HRP2	Pf	
Premier Medical	First Response Mal Ag	HRP2	Pf	
	First Response Mal Ag Combo	HRP2/pLDH	Pf/PAN	
	First Response Mal Ag PAN	pLDH	PAN	
Span Diagnostics	ParaHit Dipstick	HRP2	Pf	Dipstick only
Standard Diagnostics	Bioline Malaria Ag	HRP2	Pf	
	Bioline Malaria Ag Pf/PAN	HRP2/pLDH	Pf/PAN	
	Bioline Malaria Ag Pf/Pv	HRP2/pLDH	Pf/Pv	
	Bioline Malaria Ag Pv	pLDH	Pv	

Appendix E

Additional Country Activities under LTTA

Angola

- Provided technical assistance, at the point of origin, for the charter aircraft in Belgium for the first shipment of 1.8 million treatments of ACTs and 450,000 rapid diagnostic tests (RDTs) procured by the President's Malaria Initiative (PMI) in 2011. This assistance included overseeing the consolidation of commodities; assisting in the pre-configuration of provincial consignments; monitoring the loading of the aircraft; and, subsequently, communicating these details to another technical advisor in Angola.
- Coordinated and oversaw the securing of landing rights, receipt of the air charter, and commodities distribution to 20 consignees in 18 provinces. The development and execution of this improved distribution plan, using private sector alternatives to the Ministry of Health (MOH) mechanisms, considered the essential need of the PMI to maintain commodity visibility throughout the supply chain while, at the same time, reducing in-country costs for warehousing and security by approximately $50,000, and shortening the time required for distribution by five days.

Burkina Faso

- Provided technical and financial support to review the malaria commodity forecast and procurement plan for 2011–2015. The quantification results show gaps in 2011 for RDTs and long-lasting insecticide-treated bed nets (LLINs) for routine distribution for infants. The National Malaria Control Program (NMCP) is advocating for a government budget line to support the malaria commodities procurement in the future.
- Participated in the Malaria Operational Plan (MOP) exercise by developing the Pharmaceutical Management System Strengthening (PMSS), in collaboration with the pharmacy department, and briefing the MOP team on its accomplishments in Burkina Faso since January 2010. As part of the recommendations from the MOP team, the project is providing technical support to the NMCP in reviewing its strategic plan for 2006–2010.
- Using funding from PMI, the project procured, received, and organized warehousing for 150,000 LLINs for the ongoing national campaign. After the Global Fund Round 8 procurement and distribution of LLINs, there were major gaps in coverage. To help reach the goal of universal coverage for the distribution of LLINs, the project sent 100,000 PMI-funded LLINs, at the request of NMCP, to the Centre-Nord region (four districts); organized transport

for 35,000 LLINs to 11 selected districts in three regions: Sahel, Centre-EST and EST; and provided 15,000 LLINs for distribution in the Centre Region.

- Provided financial and technical suppport to the central level for supervision visits during the LLIN distribution, and participated in the supervision visits in five regions. The supervision team provided instructions to the LLIN distribution teams to implement the guidelines developed by the central level, with technical support from the project to improve the organization at the distribution sites. The project participated in the integrated supervision visit organized by the Maternal and Child Integrated Health Program (MCHIP). One key finding concerned stockouts of ACTs at district and SDP levels. The stockouts were essentially caused by inaccuracies in forecasting and commodity needs for the Global Fund–funded procurement (December 2010).
- Trained 63 district data managers, 13 regional data managers, 12 hospital data managers, and 13 regional pharmacists on how to use the malaria database. The database was developed by the NMCP, with financial support from the Global Fund Round 7, to improve the services and logistics data reporting on malaria. Twelve regional coordinators of local associations, working with Plan Burkina, participated in this training. The project funded all the training sessions. The logistics and services data have started flowing up the system. The data manager at the district level enters the data coming from the health facilities and the districts. The data is entered into the BD-Malaria and then sent to the central level.
- Participated in field visits to districts of the northern region to assess the status of the community-based care of malaria program and commodity stock status. The visits were organized by NMCP and *Programme d'Appui pour le Développement Sanitaire* (PADS).
- Provided orientation on quantification methodology for general health commodity and procurement planning, with a focus on malaria commodities for four national-level staff from CAMEG (one person), the NMCP (one person), and the pharmacy department (two people).
- Assisted the NMCP in dispatching the first shipment of PMI-funded kits for severe malaria treatments (32,256 kits for children and 12,500 kits for pregnant women) to the hospitals in five regions (Centre, Boucle du Mouhoun, Cascades, Hauts Bassins, and Sud-Ouest). The MOH/NMCP contracted a private transportation company to distribute the kits to the hospitals in the regions and districts.

Burundi

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

- Cleared and stored 415,000 LLINs for national routine distribution through public health facilities.
- From October through December 2010, delivered 265,000 LLINs nationally at 543 public health facilities, including—
  - 199,516 LLINs distributed to pregnant women at ANC services
  - 101,005 LLINs distributed to children under one year of age at Expanded Programme on Immunization (EPI) services

  - organized six outreach sessions using mobile video units and reaching 910 pregnant women and mother of children under one year of age who visited ANC and EPI clinics
  - trained 142 members of community-based organizations (CBO) and health technical promoters on interpersonal communications techniques for malaria prevention, LLIN hang-up, and correct use
  - organized one joint PSI-NMCP supervision mission to ensure quality of the implementation at the district level.
- Conducted a coverage survey in nine provinces targeted by the 2009–2010 LLIN mass distribution campaigns. Indicators revealed by the study include—
  - 64.2 percent of households interviewed have received at least one LLIN
  - 45 percent of households interviewed meet the standard of one LLIN for every two persons
  - 60.5 percent of children less than five years old in the household interviewed slept under an LLIN the night before the interview, as well as 58.5 percent of pregnant women.

Ghana

- Reviewed the current status of the LLIN database, and identified steps and activities that were needed for the database to produce quarterly reports on LLIN procurements and distributions in-country. A series of activities were identified and documented for implementation.
- Carried out rounds six and seven of the PMI End-Use verification activity, in the Eastern and Northern regions, respectively, with counterparts from the Ghana Health Service (GHS). Findings from the exercise indicated stockouts of SP tablets and rapid diagnostic test kits (RDTs) in most facilities. A training gap for commodity managers was also identified in the Eastern region. The project has since worked with NMCP and other partners to ensure that these stockouts are addressed when the stock of SP and RDTs arrives at the central level. Based on recommendations to improve the commodity management, 70 commodity managers in the Eastern region have been identified and trained in logistics management.
- Supported the training of 72 personnel (51 males and 21 females) in logistics management of public sector health commodities, including malaria commodities. Participants were primarily drawn from central-level institutions; the training was facilitated by the GHS trainers; the project had trained them earlier.
- Trained a total of 82 storekeepers in ten districts in the Eastern region in preparation for the hang-up campaign for 444,700 LLINs in the region. The project collaborated with Nets For Life and ProMPT, a USAID-funded project, to facilitate the training. The trainees acquired skills to enable them to correctly receive, store, issue, and account for the bed nets and other logistics before, during, and after the campaign.
- Collaborated with partners and the NMCP in field monitoring of the LLIN distribution and hang-up campaign. The project focused on monitoring, recordkeeping, actual LLIN hang-up at the district, prepositioning sites, and community levels in the ten selected districts of the region.
- After the distribution, a team of partners carried out a post-campaign validation in the 10 districts of the Eastern region where they implemented the campaign. The validation exercise documented the quantities of LLINs hung, and, also, verified all documentation related to the

management and distribution of the LLINs. The results show that 94 percent of all the LLINs transported to the 10 districts have been documented as hung and are accounted for.

- Monitored, monthly, the status of RDTs and antimalarials (including those under the AMFm) with the Procurement unit; and the Stores, Supplies and Drugs Management (SSDM) division of the GHS and the NMCP. The stock status was shared with key partners for decisionmaking, and was submitted for the PPMRm.
- In collaboration with the NMCP and other partners, facilitated the PMSS assessment for Ghana. The assessment findings will be used in the MOP process scheduled for May.
- Coordinated with the mission and the NMCP to find solutions for the overstock of SP in the country. The project recommended that the NMCP consider pushing SP to all public facilities, while ensuring that no public facility procures SP from the private market; also recommended encouraging the private, as well as the public, health facilities to pick up SP from the central medical store (CMS).

Liberia

- In conjunction with the NMCP, assisted in implementing the 2010 post-distribution survey to ensure that 480,000 LLINs distributed in the door-to-door campaign were accounted for.
- Coordinated with the NMCP and the clearing agent for the delivery of 350,000 LLINs that were shipped, cleared, transported, and off-loaded at the warehouse secured by the NMCP, in February 2011.
- Participated in a workshop to draft the NMCP's, *Liberia LLINs Strategic Plan and Operational Guidelines 2011-2015*.
- 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

- Continued collaboration with NMCP and partners for the national LLIN free distribution campaign in October and November 2010.
- Procured 2,585,000 LLINs and distributed 2,579,720 LLINs in 32 districts in seven regions.
- While doing the campaign distribution, collected used LLINs in six districts. Collected 22,559 used LLINs from 394 collection sites. As expected, most of the used LLINs were from the 2007 campaign; 50 percent were made of polyethylene and the other 50 percent were made of polyester. In Betioky, collected approximately 8,000 used LLINs. This district had the highest number of bed nets collected and largest number of distribution/collection sites, although not the largest population.
- Conducted an assessment of the availability of LLINs distributed in 2007. The assessment was conducted in two regions of two districts with one Fokontany (an administrative sub-division) each. xxx
- Conducted a quantification workshop and developed procurement plans for malaria commodities, with a number of partners (NMCP, Population Services International (PSI), Salama (Central Warehouse Medicines, purchasing for public sector), SantéNet2, Clinton

HIV/AIDS Initiative (CHAI), WHO, *Unité de Gestion des Projets d'Appui au Secteur Santé* (funded by the World Bank), and Centre for Disease Control /PMI). Some challenges were a lack of reliable data and missing activity reports; therefore, we had to make assumptions. There was no data on the stock status of products at each level, or any stockout periods.

- Began the process of the exploratory qualitative research on the use, maintenance, disposal, recycling, and replacement of bed nets at the community level. The study is entitled "Social, Cultural and Ethical Issues related to the Life Cycle Management of Long Lasting Insecticidal Nets – Madagascar".
- Collected information from NGOs to input into a database of health facilities throughout the country. Most of the contacted NGOs, which are likely to collaborate with us, are faith-based NGOs, including the Development Department of the Church of Jesus Christ in Madagascar (SAF FJKM), Development Department of the Lutheran Church (SALFA), and the Episcopal Commission for Health of the Catholic Church (CES ECAR). The exception is the local representative of International Planned Parenthood Federation, IPPF affiliate (FISA), the only non-religious NGO willing to collaborate.
- Held preliminary meetings to prepare the workshop on the LMIS design for NGOs.

Malawi

- At the end of February 2011, assisted HTSS pharmaceutical of the MOH to conduct a quantification exercise workshop for essential medicines and malaria commodities.
- Designed and implemented the PSC for storing and distributing USG-procured commodities, including malaria commodities (ACTs, SP, and RDTs) and family planning commodities. A tendering process (RFP) was started, a third party logistics provider was selected (through RFP tendering), and a contract was signed with the project. Begun in December 2010, the PSC has successfully performed three countrywide trips of commodity distribution. Subsequent to the good performance of the PSC, the Global Fund recommended that malaria commodities they procure for Malawi should also be distributed through the same PSC.
- Assisted MOH in training 129 laboratory technicians in the five remaining districts on standardized logistics procedures for laboratory commodities, including RDTs.
- Assisted NMCP in conducting field visits and data analysis for the End-Use verification tool. Main PMI indicators have been analyzed using the data collected.

Mozambique

- Continued support to CMAM by packing 3,034 AS/AQ kits (758,500 treatments) for health facilities, 7,543 AL kits (1,565,130 treatments) for health facilities, and 8,424 AL kits (916,740 treatments) for community health workers at the Maputo central warehouse; we transported them to the provinces.
- In collaboration with SCMS, the MOH and partners led meetings to finalize the forecast for antimalarial commodities and updated the procurement plan for the next three years (2011–2013).
- Conducted a five-day training in quantification of health commodities (antimalarials, contraceptives, ARVs) for program managers from the MOH, CMAM staff, and implementing

partners. The goal of the training was to strengthen the capacity of the participants in the processes and methodologies for estimating consumption and needs, developing procurement plans, and using PipeLine software.

- Every month, the project conducts a physical inventory of antimalarials and RDTs at the central-level warehouses and we report information quarterly for the PPMRm. Additionally, the project assists CMAM with updating and maintaining the Pipeline database. Due to the recent constrained stock situation, the project facilitated requests and updated partners on stock status information for all malaria commodities.

Nigeria

- Continued to collaborate with the NMCP and other partners to plan and support the distribution of LLINs. From October 2010–March 2011, distributed 12,797,372 LLINs in nine states. Additionally, the project provided LLIN transportation assistance to the village level in Cross River State.
- Supported the training of 700 staff in the LLIN micro-positioning plan training.
- Conducted warehouse assessments in Delta, Kogi, Ondu, Osun, and Oyo states to determine capability of receiving and storing LLINs. Recommendations will guide state and LGA officials to implement updates in warehouses for LLIN storage.
- To start the roll-out of the malaria commodities logistics system, project staff trained 571 staff across 18 states. However, due to nationwide stockouts of antimalarials, the training will be delayed until antimalarials become available.
- Supported a stock verification exercise for malaria commodities in 17 of the 37 states across Nigeria that revealed an imminent stockout of ACTs.

Rwanda

- Supported the MOH in conducting a nationwide physical inventory of family planning, EOC, IMCI, and malaria commodities from December 13–17. Visited a total of 524 facilities, including 30 district pharmacies, 41 hospitals, 429 health centers, 33 secondary posts, and 10 FOSACOM (health posts). The data collectors were 5th year pharmacy students from the National University of Rwanda who had just completed the two-week logistics management course. The exercise enable the students to apply their new logistics management knowledge, analyze the strengths and weaknesses of the current distribution system, and make recommendations.
- Printed 106,000 stock cards for district pharmacies, hospitals, and health centers, upon request from the Pharmacy Task Force (MOH/PTF). Each facility will receive 200 stock cards to properly manage their respective inventory levels. The reproduction of the stock cards is an immediate response to the lack of stock cards encountered at the facility level nationwide
- Procured and supplied fire extinguishers to 30 districts pharmacies and 40 district hospital pharmacies: USAID | DELIVER PROJECT has procured 70 fire extinguishers for 30 district pharmacies and 40 district hospital pharmacies.
- Supported pre-service training in supply chain management:

- *Reviewed lecturers' guide and student syllabus*: During a one-week retreat, representatives from the Pharmacy Task Force; CAMERWA; and three students and five lecturers reviewed the materials. The revised materials, which cover all health commodities, were then used to train the 4th and 5th year pharmacy students.
- *Conducted training in logistics of 4th and 5th year pharmacy students from the pharmacy department of the NUR*. Organized four workshops for 110 students. Five pharmacy department lecturers, who attended the TOT in January 2010, facilitated the workshops. The post-test showed that 91.1 percent of students rated high and 75.7 percent received great distinction.

- Conducted field supervision for 29 health centers, in seven districts, to investigate the reasons for the low reporting and recurrent stockouts.
- To prepare for the roll-out of the harmonized LMIS, conducted refresher training of trainers for 23 district trainers and six training supervisors. The 23 trainers and the supervisors attended the TOT that took place in April/May 2009.
- Conducted roll-out training of the harmonized LMIS and private sector LMIS orientation. Two participants per health facility attended the roll-out sessions. In addition, all private pharmacies and pharmacy depots who signed an MOU with the MOH to freely distribute contraceptives attended the training. In total, 1,253 participants were trained. Prior to leaving the training sessions, each facility received the printed LMIS tools. The first harmonized LMIS report is due in April.
- Participated in malaria program review with the NMCP.

Tanzania

- Conducted the Zanzibar 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 the CMS to train staff on how to use 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 coordination with NMCP, performed ACT commodity tracking in the Dar zone to expand the visibility of ACT movement and availability within the supply chain. Data was collected from 25 percent of the total number of health facilities in each district (approximately 107 facilities). This activity is part of an effort to enhance the monitoring efforts of USAID-funded ACTs.
- Conducted a four-day PipeLine 5.1 training, where 18 participants were trained (eight participants from the Ministry of Health, seven from the USAID | DELIVER PROJECT, two from SCMS, and one Peace Corps/JSI volunteer from Zanzibar.
- As part of a quantification exercise, undertook an extensive physical count of malaria commodities at all zonal and central MSD stores. Assessed the R&R forms submitted to the MSD, and analyzed the issues and receipts data to increase visibility and data for decisionmaking.
- Conducted End-Use verification activity in several districts of the Morogoro region. The activity was an opportunity for central-level Pharmaceutical Services Unit and the NMCP to provide supportive supervision to the district and facility level.

- To strengthen MSD capacity to operate an effective in-country supply chain, implemented a three-week training course for central- and zonal-level MSD management on the essentials of supply chain management, quantification and procurement planning, and warehouse management. This activity was conducted with SCMS, Pharmaceutical Services Unit, and the MSD.

Zambia

- Conducted constant monitoring of customized LMIS software (SCMgr) to effectively manage data supporting the pilot logistics systems for essential drugs, including antimalarial medications and RDTs.
- Evaluated logistics management systems for essential drugs, including antimalarial medications and RDTs, in the 16 pilot districts and eight control districts. Results of the evaluation show—
  - increased stock availability and access to ACTs
  - reduction in malaria commodity stockouts at both the central and SDP levels
  - reduction in the number of clinically diagnosed malaria cases due to an increase in RDT usage and training of health staff in malaria case management.
- Used Epi-surveyor software for malaria case management data collection (version of End-Use verification tool) to inform the program and stakeholders about implementation at the SDP level and connected diagnosis patterns with treatment patterns. This data enhanced program development and provided directional information about potential gaps.

  An ongoing plan is in place, with regular reporting to address the identified gaps—
  - provided End-Use monitoring activities for monitoring and reporting on supply chain performance and availability of malaria commodities
  - offered on-the-job training for both commodity planners and health facility staff in places where gaps were identified
  - held a consultative meeting with MSL commodity planners to identify the bottlenecks faced in their respective districts of operation and provided supportive supervision training.
- Conducted capacity building with the forecasting and quantification of malaria medicines to meet the needs of the country.
- Conducted capacity building of health workers in malaria case management across the country.
- Collected central-level stock information monthly.
- Reviewed and updated the five-year (2010–2015) forecast for malaria drugs and RDTs and disseminated to stakeholders to inform malaria program planning.
- Provided stock availability data to stakeholders to facilitate planning and inform decisionmaking (PPMRm).

Zimbabwe

- Task Order Malaria technical advisors provided a general orientation and overview of malaria and PMI support to Zimbabwe (it will probably become a PMI focus country) to MOHCW,

NatPharm, and project staff. Discussions were held around the technical recommendations for managing malaria products, particularly in the context of Zimbabwe. Clarified in-country clearance procedures for malaria commodities with the MOHCW and the field office. Participants expressed appreciation for the training.

- Recruited and seconded a malaria logistics focal person to the MOHCW Directorate of Pharmacy Services (DPS) in response to a request made by the MOHCW to the USAID Mission. The focal person will spearhead the monitoring of malaria commodities supplies and coordinate the malaria supply chain at central level.
- Continued support to MOHCW DPS and NatPharm with quarterly deliveries of TB and malaria commodities and primary health care packages.
- Assisted MOHCW DPS and NMCP in reviewing the quantification for ACTs, in response to a MOHCW request to USAID for ACT funding. As a result, USAID funded an emergency shipment of ACTs worth $1 million to fill the funding gap. Received the shipment of approximately 750,000 treatments, averting a central level stockout. Scheduled shipments of quinine and SP were received, as planned.
- Provided technical support to the MMSCT Harmonization Technical Working Group (HTWG). The meetings are held to receive updates on shipments and the stock status of ZIP/PHCP commodities, to review progress of deliveries, and to resolve challenges faced in implementing the ZIP/Primary Health Care Package (PHCP) system
- Revised the ZIP/PHCP SOPs and training curricula to reflect Auto Delivery Receipt Vouchers (DRV) as the main system for collecting essential logistics data on TB, malaria, and essential medicines and medical supplies in the field. Using Auto DRV will minimize data encoding errors and improve the quality of data collected, as opposed to the manual collection of data on paper.

Appendix F

TO3-Funded Short-Term Technical Assistance, October 1, 2010–March 31, 2011

Name	Destination	Travel Date
Rebour, Gilles	Belgium	10/10/10 – 10/15/10
Dia, Ousmane	Tanzania	10/10/10 – 10/23/10
Adoga, Christianah	USA	10/16/10 – 10/24/10
Ainsworth, Rich	Nigeria	10/18/10 – 11/19/10
Ouedraogo, Youssouf	Liberia	10/19/10 – 10/27/10
Clarke, Zac	Madagascar	10/30/10 – 11/14/10
Dowling, Paul	Malawi	10/31/10 – 11/20/10
Takang, Eric	Tanzania	11/02/10 – 11/21/10
Arturo, Sanabria	USA	11/03/10 – 11/09/10
Waweru, Jayne	Liberia	11/06/10 – 11/27/10
Kiema, Moses	Madagascar	11/06/10 – 11/13/10
Warren, Chris	Malawi	11/12/10 – 11/27/10
Dia, Ousmane	Tanzania	11/14/10 – 12/10/10
Jamu, Styn	Malawi	11/17/10 – 12/02/10
Rebour, Gilles	Madagascar	11/21/10 – 12/14/10
Rack, Ralph	Madagascar	11/21/10 – 12/14/10
Hudgins, Tony	Malawi	11/23/10 – 12/03/10
Larkin, John	Nigeria	11/29/10 – 12/17/10
Kagone, Meba	Burkina Faso	12/14/10 – 01/07/11
Kiema, Moses	Zambia	01/09/11 – 01/22/11
Kagone, Meba	Ghana	01/10/11 – 01/15/11
Ainsworth, Rich	Malawi	01/17/11 – 02/18/11
Rebour, Gilles	Angola	01/22/11 – 02/11/11
Warren, Chris	Belgium	01/28/11 – 02/03/11
Printz, Naomi	Zimbabwe	01/30/11 – 03/20/11
McCord, Joe	Malawi	01/31/11 – 02/05/11

Name	Destination	Travel Date
Stannard, Paul	Switzerland	02/01/11 – 02/05/11
Amenyah, Johnnie	Rwanda	02/07/11 – 02/18/11
Umaru, Farouk	Malawi	02/07/11 – 02/23/11
Rack, Ralph	Switzerland	02/08/11 – 02/12/11
Ndoye, Thidiane	Madagascar	02/14/11 – 02/25/11
Warren, Chris	Malawi	02/16/11 – 03/06/11
Stannard, Paul	Denmark	02/20/11 – 02/25/11
Felling, Bill	Zambia	02/20/11 – 03/05/11
Hendrix, Catherine	Burundi	02/25/11 – 03/13/11
Frost, Mike	Zimbabwe	02/28/11 – 03/18/11

Appendix G

Performance Monitoring Plan (PMP)

USAID | DELIVER PROJECT Task Order Malaria
Performance Monitoring Plan (Final Draft)
1-Mar-09

	Deliverables	Indicators	Numerator/ Denominator	Source	Frequency	Comments
Objective 1. Improve and expand USAID's provision of malaria commodities to programs (50-60 percent LOE)						
Direct procurement services						
	Monthly procurement scorecard implemented	Monthly scorecard available which includes the following the indicators: Orders available for shipping on time; Orders shipped on time; Orders received on time; Supplier fill rates; Right quantity received; Goods arrived in right condition	Number of scorecards with 80% of the indicators available/ number of months	DelPHi, Management reports	Monthly	Upon finalization of the format
	Procurement adhering to USG guidelines and requirements	Percentage of subcontracts requiring OAA approval that receive OAA approval	Number of subcontracts over receiving OAA approval/ Total number of subcontracts requiring OAA approval	Program records	Annual	
	Orders shipped on time	Percentage of orders available for shipping within 10 working days of contracted date with the vendors	Number of orders available for shipping within 10 working days of contracted date with the vendor/ Total number of orders placed to the vendor	DelPHi	Semi-annual	

	Deliverables	Indicators	Numerator/ Denominator	Source	Frequency	Comments
	Orders received on time	Percentage of orders shipped to the countries within 10 working days of contracted date with the vendors	Number of orders shipped to the countries within 10 working days of contracted date with the vendors/ Total number of orders placed to the vendors	DelPHi	Semi-annual	
		Percentage of orders received by consignee countries within a month of agreed date with the mission	Number of orders received by consignee countries within a month of agreed date with the mission/ Total number of orders placed by consignee countries	DelPHi	Semi-annual	The CPIR has been received and the money is available for the order
	Suppliers deliver ordered commodities to satisfy contractual requirements	Supplier fill rate (contracted quantity on time) (by products)	Number of on-time delivery of the agreed upon quantity/ Total number of orders placed	DelPHi	Semi-annual	Full quantity means agreed upon quantity with mission at the time of order placement
		Median number of days required to contract one commodity from CPIR announcement to contract signing	N/A	RFP/RFQ posting and contract signing dates	Semi-annual	Our responsiveness in dealing with the order and approaching the vendors
Management information system						
	Availability of functioning MIS to USAID PMI staff	Percentage of time the USAID | DELIVER PROJECT website is available	Amount of time the USAID | DELIVER PROJECT website was available/Total amount of service hours	Performance Metrics Report	Monthly	For service hours see Service Level Agreement
	Total number of visits	Total number of visits to the USAID | DELIVER PROJECT website	N/A	Performance Metrics Report	Monthly	
	Number of logins	Total number of logins for the Oracle Portal	N/A	Performance Metrics Report	Monthly	Logins include MMIS and SDG websites.
Quality assurance and quality control						
	Quality assurance and quality control procedures established and implemented	Percentage of LN shipments with pre-shipment test reports available	Number of LN shipments with pre-shipment test report available/ Number of LN shipments for which a pre-shipment test report	QA/QC Report Cards, inspection reports, certificates of	Semi-annual	

	Deliverables	Indicators	Numerator/ Denominator	Source	Frequency	Comments
			should be available	conformation		
		Median time (in days) and range required for pre-shipment LN tests reports	N/A			
		Percentage of RDT shipments with up-to-date post-shipment test reports available	Number of RDT shipments with up to date post-shipment test reports available/ Number of RDT shipments	QA/QC Report Cards, RDT post-shipment test report, certificates of conformation	Semi-annual	Based on SOPs
		Median time (in days) and range required for up to date post-shipment RDT test reports	N/A		Semi-annual	
		Percentage of pharmaceutical shipments with pre-shipment certificates of conformance	Number of pharmaceutical shipments with pre-shipment certificates of onformance/ Number of pharmaceutical shipments	QA/QC Report Cards, certificates of conformation	Semi-annual	
		Median time (in days) and range required for pre-shipment pharmaceutical test reports	N/A		Semi-annual	
Objective 2: Strengthen in-country supply systems and capacity for management of malaria commodities (30-40 percent LOE)						
	Respond to STTA needs as per mission requests	Percentage of STTA trips per Mission's or PMI | Washington ad hoc request conducted on time (within one month of the requested date)	Number of ad hoc STTA requests filled within one month of requested date/ Total number of ad hoc STTA requests	Program documents	Semi-annual	Ad hoc is outside of workplan
	In-country supply chain data management system developed or improved	Quantity of malaria commodities (LNs, SP tablets, ACT treatments, RDTs) distributed in country using funds obligated to USAID | DELIVER PROJECT	N/A	Management reports, Delphi3, LMIS, program records/reports	Semi-annual	Even the products we did not purchase

	Deliverables	Indicators	Numerator/ Denominator	Source	Frequency	Comments
		Percentage of countries receiving field support TA funds reporting on availability of malaria (tracer) commodities at service delivery points/LN outlets	Number of project countries participating in the end-use monitoring activities which are providing reports on availability of malaria commodities according to their individual country plans/Number of project countries participating in the end-use monitoring activities	End use verification reports; LMIS	Semi-annual	Countries where the project is leading PMI's end use monitoring
		Percentage of countries receiving field support TA funds reporting on supply chain performance	Number of project countries participating in the end-use monitoring activities which are providing reports on supply chain performance according to their individual country plans/Number of project countries participating in the end-use monitoring activities	End use verification reports	Semi-annual	Countries where the project is leading PMI's end use monitoring
		Number of individuals trained on the supply chain management of malaria commodities	N/A	Activity reports	Semi-annual	Anyone who was trained other than USAID | DELIVER PROJECT staff
		Percentage of countries with field support TA funds reporting central level ACT stock in quarterly stock monitoring reports	Number of project countries participating in PMI's central stock monitoring activities which are providing quarterly stock monitoring reports/Number of project countries participating in PMI's central stock monitoring activities	Quarterly stock monitoring report	Semi-annual	Countries where the project is leading PMI's PPMRm
Objective 3: Improve global supply and availability of malaria commodities (5-7 percent LOE)						
	Support global and regional stakeholders/forums of SCM technical issues	Number of global, regional and country level malaria initiatives with DELIVER technical participation	N/A	Program reports	Semi-annual	

	Deliverables	Indicators	Numerator/ Denominator	Source	Frequency	Comments
		Number of technical reports or tools developed to support global and regional malaria initiatives	N/A	Program reports	Semi-annual	

Appendix H

Objective 2—PMP Indicators Supplemental Information

Table 1. Facility Stockout Rate: Percentage of Facilities with a Stockout of a Product Expected to be Provided or Issued by that Site, on the Day of Visit

Country	Product	N	Stockout Rate	Source
Ghana	AS/AQ 3+3	36	14%	End-Use Feb 2011
	AS/AQ 6+6	34	44%	End-Use Feb 2011
	AS/AQ 12+12	37	32%	End-Use Feb 2011
	AL 1x6	11	36%	End-Use Feb 2011
	AL 2x6	8	50%	End-Use Feb 2011
	AL 3x6	36	14%	End-Use Feb 2011
	AL 4x6	21	24%	End-Use Feb 2011
Malawi	AL 1x6	419	28%	LMIS and SCMgr monthly report, February 2011
	AL 2x6	419	31%	LMIS and SCMgr monthly report, February 2011
	AL 3x6	419	39%	LMIS and SCMgr monthly report, February 2011
	AL 4x6	419	27%	LMIS and SCMgr monthly report, February 2011
	AS/AQ 3+3	45	27%	End-Use Jan 2011
	AS/AQ 6+6	43	9%	End-Use Jan 2011
	AS/AQ 12+12	47	19%	End-Use Jan 2011
Tanzania	AL 1x6	18	11%	End-Use Feb 2011
	AL 2x6	18	22%	End-Use Feb 2011
	AL 3x6	18	39%	End-Use Feb 2011
	AL 4x6	18	83%	End-Use Feb 2011
Zambia	AL 1x6	28	0%	End-Use Mar 2011
	AL 2x6	28	0%	End-Use Mar 2011
	AL 3x6	28	0%	End-Use Mar 2011

Country	Product	N	Stockout Rate	Source
Ghana	AS/AQ 3+3	36	14%	End-Use Feb 2011
	AS/AQ 6+6	34	44%	End-Use Feb 2011
	AS/AQ 12+12	37	32%	End-Use Feb 2011
	AL 1x6	11	36%	End-Use Feb 2011
	AL 2x6	8	50%	End-Use Feb 2011
	AL 3x6	36	14%	End-Use Feb 2011
	AL 4x6	21	24%	End-Use Feb 2011
Malawi	AL 1x6	419	28%	LMIS and SCMgr monthly report, February 2011
	AL 2x6	419	31%	LMIS and SCMgr monthly report, February 2011
	AL 3x6	419	39%	LMIS and SCMgr monthly report, February 2011
	AL 4x6	419	27%	LMIS and SCMgr monthly report, February 2011
	AL 4x6	28	0%	End-Use Mar 2011

This indicator could not be calculated for the following TO3 presence countries, as the requisite data is not reported through an LMIS and/or these countries are not implementing the End-Use verification activity:

Burkina Faso
Burundi
Liberia
Madagascar
Malawi
Mozambique
Nigeria
Rwanda
Zimbabwe

Table 2. Functioning LMIS: Percentage of Countries Where an LMIS Is Present That Routinely Collects and Reports Stock Status Data (i.e., stock on hand and consumption data) from all SDPs in the Country

Country	Functioning LMIS	Note
Burkina Faso	No	The project is working with the NMCP to put in place an improved reporting system that will allow the program to access logistics and statistics data. In collaboration with Global Fund Round 7 and the NMCP, TO3 trained all the district and regional data managers on the use of the malaria database, which GF Round 7 developed and funded. The project provided funding for the training and implementation of the database in all districts. In addition, the project

Country	Functioning LMIS	Note
		assisted the malaria program to harmonize the reporting form, combining health statistics and logistics data at the facility level. The program is now receiving the quarter 4 data from the regions, and has received data from 7 regions. The remaining 6 regions data are expected by May 2011. The first quarter 2011 data are expected at the central level by June/July. The project expects to have logistics data and stockout information on malaria commodities available for the TO3 annual report for FY2011.
Ghana	No	
Liberia	No	
Madagascar	Yes	As of 2011, NMCP has an LMIS where the SDPs report data each month, and also provide a quarterly malaria data report. At the central level of NMCP, the data are input into a computer data base. The project field office has established, with NMCP, a quarterly report that contains consumption data, stock status information, procurement planning, and main activities during the quarter to be used for decisionmaking. Following the project's activity for forecasting and quantification in February 2011, NMCP recognizes the importance of the data and are ready to reinforce the data quality and reporting rates. The first quarterly central report is expected in May, which reports the Q1 situation.
Malawi	Yes	
Mozambique	No	
Nigeria	No	More than a year ago, through its capacity building contract with the Global Fund, JSI Logistics Services helped design a system that could provide SDP data for malaria commodities, although training and roll out of the redesign is on hold, due to an overall lack of malaria commodities throughout the country.
Rwanda	Yes	As of end of March 2011, a new harmonized LMIS is in place, which collects stock on hand consumption data from all SDPs. The first round of reporting has started.
Tanzania	No	
Zambia	Yes	Over the past few years, the USAID | DELIVER PROJECT office in Zambia has supported a supply chain pilot in 16 districts of Zambia, including an LMIS that can provide SDP-level data.
Zimbabwe	Yes	The project is working with the logistics sub-unit (LSU) to automate data collection for the Zimbabwe Informed Push (ZIP) system, which gathers SDP-level data for malaria commodities; it is anticipated that the entire country will be automated by 2012.

Table 3. Percentage of Countries Receiving Field Support TA Funds Reporting on Supply Chain Performance via the End-Use Verification Activity

Country	End-Use Carried Out by the Project	Note

Country	End-Use Carried Out by the Project	Note
Burkina Faso	No	Although a TO3 presence country, Burkina Faso is not a PMI focus country, and the project has not been tasked with implementing the End-Use activity during this reporting period.
Ghana	Yes	Ghana has been carrying out the End-Use activity quarterly since July 2009.
Liberia	NA	Although Liberia does receive TO3 field support, and initially rolled out the End-Use activity for two quarters in FY10, responsibility for the End-Use activity in this country was transferred to the SPS project at the end of FY10, as per the FY10 MOP. It is not included in the denominator for this activity.
Madagascar	No	The End-Use activity has been unable to proceed in Madagascar, as per the prohibition on partnering with the host government.
Malawi	Yes	The project assumed responsibility for the End-Use activity in FY11, and carried out one round of data collection in Jan 2011, with a second round scheduled for May 2011.
Mozambique	No	The project has worked closely with the new NMCP director to ensure that End-Use is implemented in the second half of FY11.
Nigeria	No	Due to an overall lack of malaria commodities throughout the country, the decision was made to postpone the implementation of End-Use verification until such time as programmatically feasible, possibly at the beginning of FY12.
Rwanda	NA	Although Rwanda is a TO3 presence country, responsibility for the End-Use activity was transferred to the SPS project, as per the FY10 MOP; it is not included in the denominator for this indicator.
Tanzania	Yes	Tanzania has been carrying out the End-Use activity quarterly since January 2009.
Zambia	No	Zambia has been carrying out the End-Use activity quarterly since November 2009.
Zimbabwe	No	The status of Zimbabwe as a PMI focus country was in question throughout the first half of FY11; the decision has not yet been made concerning implementation of the End-Use activity.

Table 4. Country Stockout Rate: The Percentage of Countries Experiencing a Stockout at the Central Warehouse(s) at the Time of Reporting

PPMRm—Quarter 4 of 2010 (October)

Product Name	AL 6x1	AL 6x2	AL 6x3	AL 6x4	AS/AQ, FDC, 25/67.5 mg	AS/AQ, FDC, 50/135 mg	AS/AQ, FDC, 100/270 mg, 3 tabs	AS/AQ, FDC, 100/270 mg, 6 tabs	AS+AQ 3+3	AS+AQ 6+6	AS+AQ 12+12	SP	RDTs
Countries													
Burkina Faso							X						
Ghana*												X	X
Liberia*									X	X	X		
Madagascar**													
Malawi													
Mozambique			X									X	
Rwanda**													
Tanzania													X
Zambia													

*During this quarter, both Ghana and Liberia were intentionally stocking out of the AS+AS co-blistered presentations in an effort to transition to the co-formulated presentations of AS/AQ.

** TO3 is responsible for collecting PPMRm data in 9 countries. As previously stated, the project cannot access data for Rwanda and Madagascar.

Stockout rates are summarized as follows: AL 6x1 – 0/9 or 0 percent of countries were stocked out; AL 6x2 – 0/9 or 0 percent of countries were stocked out.; AL 6x3 – 1/9 or 11 percent of countries were stocked out ; AL 6x4 – 0/9 or 0 percent of countries were stocked out; AS/AQ FDC 25 mg/67.5 mg – 0/9 or 0 percent of countries were stocked out; AS/AQ FDC 50 mg/135 mg – 0/9 or 0 percent of countries were stocked out; AS/AQ FDC 100 mg/270 mg 3 tabs – 1/9 or 11 percent of countries were stocked out; AS/AQ

FDC 100 mg/270 mg 6 tabs – 0/9 or 0 percent of countries were stocked out; AS+AQ 3+3 – 1/9 or 11 percent of countries were stocked out ; AS+AQ 6+6 – 1/9 or 11 percent of countries were stocked out ; AS+AQ 12+12 - 1/9 or 11 percent of countries were stocked out ; SP – 2/9 or 22 percent of countries were stocked out ; RDTs – 2/9 or 22 percent of countries were stocked out .

Table 5. Country Stockout Rate: The Percentage of Countries Experiencing a Stockout at the Central Warehouse(s) at the Time of Reporting

PPMRm—Quarter 1 of 2011 (January)

Product Name	AL 6x1	AL 6x2	AL 6x3	AL 6x4	AS/AQ, FDC 25/67.5 mg	AS/AQ, FDC, 50/135 mg	AS/AQ, FDC, 100/270 mg, 3 tabs	AS/AQ, FDC, 100/270 mg, 6 tabs	AS+AQ 3+3	AS+AQ 6+6	AS+AQ 12+12	SP	RDTs
Country													
Burkina Faso					X		X	X					
Ghana**							X			X		X	X
Liberia**													
Madagascar*													
Malawi			X										
Mozambique**									X	X		X	
Nigeria – Bauchi***	X		X	X									
Nigeria – Kano***	X	X	X	X					X		X		
Nigeria – Sokoto***													
Rwanda*													
Tanzania												X	X
Zambia		X											

* TO3 is responsible for collecting PPMRm data in 10 countries. As previously stated, the project cannot access data for Rwanda and Madagascar.

** AS+AQ co-blisters are used as an alternative to AL; only small quantities are kept on hand.

*** Stock is not held centrally in Nigeria, but is distributed directly to the states. For their first quarter of reporting, Nigeria provided data for three of the seven USAID-supported states. Stockouts were reported for a number of products in the states of Kano and Bauchi; however, there was stock of all of these commodities at the time of reporting. The difficulty is in estimating MOS because there is no consumption data for these commodities. During the reporting period, there was also a lack of issues data.

For measurement purposes, the states of Nigeria are counted here as three separate countries. Stockout rates are summarized as follows: AL 6x1 – 2/12 or 16.6 percent of countries were stocked out; AL 6x2 – 2/12 or 16.6 percent of countries were stocked out; AL 6x3 – 3/12 or 25 percent of countries were stocked out; AL 6x4 – 2/12 or 16.6 percent of countries were stocked out; AS/AQ FDC 25 mg/67.5 mg – 1/12 or 8 percent of countries were stocked out; AS/AQ FDC 50 mg/135 mg – 0/12 or 0 percent of countries were stocked out; AS/AQ FDC 100 mg/270 mg 3 tabs – 2/12 or 16.6 percent of countries were stocked out; AS/AQ FDC 100 mg/270 mg 6 tabs – 1/12 or 8 percent of countries were stocked out; AS+AQ 3+3 – 2/12 or 16.6 percent of countries were stocked out; AS+AQ 6+6 – 2/12 or 16.6 percent of countries were stocked out; AS+AQ 12+12 - 1/12 or 8 percent of countries were stocked out; SP – 3/12 or 25 percent of countries were stocked out; RDTs – 2/12 or 16.6 percent of countries were stocked out.

Appendix I

Malaria Fact Sheets

MALARIA COMMODITIES

CATEGORIE: DRUG **ARTEMETHER / LUMEFANTRINE 20mg/120mg TABLETS**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	DISPENSERS PER BOX	TREATMENTS PER DISPENSERS	TABLETS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Coartem®	Novartis USA Novartis USA/China	Tablets containing combination of: Artemether 20mg and Lumefantrine 120mg **Non Dispersible Version**	1X6 tablets 2X6 tablets 3X6 tablets 4X6 tablets	16 16 16 16	30 30 30 30	2880 5760 8640 11520	40X27X34 40X27X34 51X32X34 51X32X34	6.24 6.88 9.12 10.20	Between 15℃ and 30°C	YES	24 Months
Coartem®	Novartis USA Novartis USA/China	Tablets containing combination of: Artemether 20mg and Lumefantrine 120mg **Dispersible Version**	1X6 tablets 2X6 tablets	8 8	30 30	1440 2880	40X27X22.5 40X27X22.5	3.33 3.80	Between 15℃ and 30°C	YES	25 Months
Coartem®	Novartis USA Novartis USA/China	Tablets containing combination of: Artemether 20mg and Lumefantrine 120mg **Dispersible Version**	2X6 tablets **New Packaging**	15	30	5400	48X16X37	6.5	Between 15℃ and 30°C	YES	26 Months

World Health Organization Recommended Treatment Regimen	
Patient's weight (kg)	6-dose regimen over a 3-day period
<5 kg	Not recommended at this time
5 - 14 kg	1 tablet
15 - 24 kg	2 tablets
25 - 34 kg	3 tablets
> 34 kg	4 tablets

* Source: WHO "Guidelines for the Treatment of Malaria" Second Edition page 20

CATEGORIE: DRUG **ARTESUNATE INJECTION, 20 MG, 60MG, 80MG**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	AMPS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Generic	Dafra, Belgium	Artesunate injection 20mg/ml amps	Each box contains one vial of Artesunate + one ampoule of 5% sodium bicarbonate	500 X 10 amps per pack	79X53X34	23.46	Between 15℃ and 30°C	NO	36 Months
Artesun	Guilin, China	Artesunate injection 60mg/ml amps	Each box contains one vial of Artesunate + one ampoule of 5% sodium bicarbonate	500 X 10 amps per pack or 200 X 5 amps per pack	79X53X34	14.2	Between 15℃ and 30°C and protect from sunlight	YES	36 Months
Generic	Dafra, Belgium	Artesunate injection 80mg/ml amps	Each box contains one vial of Artesunate + one ampoule of 5% sodium bicarbonate	960 X 5 amps per pack	79X53X34	24.55	Between 15℃ and 30°C	NO	48 Months

World Health Organization Recommended Treatment Regimen	
CHILD over 6 months and **ADULT**	Loading dose of 3.2 mg/kg, then 1.6 mg/kg daily until patient can tolerate oral medication or to a maximum of 7 days

CATEGORIE: DRUG **ARTESUNATE 50 MG + AMODIAQUINE 150 OR 153MG TABLETS**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	TREATMENTS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE REQUIREMENTS	WHO PRE-QUALIFIED	SHELF LIFE
Generic	CIPLA, India	Tablets containing: Artesunate 50 mg tablets + Amodiaquine 153 mg (as base or equivalent to 200 mg as HCl) tablets	**Co-packed in blisters/strips As+AQ tablets**: • Box containing 25 blisters of 3 + 3 tablets, • Box containing 25 blisters of 6 + 6 tablets • Box containing 25 blisters of 12 + 12 tablets	900 900 600	52X23X23 (Dimensions can slightly vary)	7 7 9	Store below 25℃	YES	36 Months

World Health Organization Recommended Treatment Regimen		
Patient's Age	Number of tablets of Artesunate 50mg + Amodiaquine 153mg PER DOSE to be taken each on days 1, 2 and 3	
Age 5 to 11 months	Artesunate 25mg (½ tablet) + Amodiaquine 76mg (½ tablet)	
Age 1 to 5 years	Artesunate 50mg (1 tablet) + Amodiaquine 153mg (1 tablet)	
Age 7 to 13 years	Artesunate 100mg (2 tablets) + Amodiaquine 306mg (2 tablets)	
13 years and above	Artesunate 200mg (4 tablets) + Amodiaquine 612mg (4 tablets)	
Patient's weight	The total recommended treatment is 4 mg/kg/day of Artesunate and 10mg/kg/day of Amodiaquine given once a day for 3 days	

* Source: WHO "Guidelines for the Treatment of Malaria" Second edition page 20

CATEGORIE: DRUG **ARTESUNATE + AMODIAQUINE FDC TABLETS**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	PACKS PER BOX	TREATMENTS PER BOX	TABLETS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Coarsucam/ ASAQ	Sanofi-Aventis, Maphar laboratories, Morocco	Tablets containing: Artesunate 25 mg + Amodiaquine 67.5 mg (Infant version)	FDC 3X25 Blisters	48	1200	3600	43X30X26	6.84	Store below 30℃	YES	24 Months
		Tablets containing: Artesunate 50 mg + Amodiaquine 135 mg (Toddler version)	FDC 3X25 Blisters	36	900	2700	53.5X29X24	5.91	Store below 30℃	YES	24 Months
		Tablets containing: Artesunate 100 mg + Amodiaquine 270 mg (Child version)	FDC 3X25 Blisters	36	900	2700	53.5X29X24	7.01	Store below 30℃	YES	24 Months
		Tablets containing: Artesunate 100 mg + Amodiaquine 270 mg (Adult version)	FDC 6X25 Blisters	24	600	3600	53.5X29X24	6.48	Store below 30℃	YES	24 Months

World Health Organization Recommended Treatment Regimen	
Patient's Age	Number of tablets of Artesunate - Amodiaquine PER DOSE to be taken each on days 1, 2 and 3
Age 5 to 11 months	1 tablet Artesunate 25mg + Amodiaquine 67.5mg
Age 1 to 5 years	1 tablet Artesunate 50mg + Amodiaquine 135mg
Age 7 to 13 years	1 tablet Artesunate 100mg + Amodiaquine 270 mg
13 years and above	2 tablets or 200mg Artesunate + 540mg Amodiaquine
Patient's weight	The total recommended treatment is 4 mg/kg/day of Artesunate and

* Source: WHO "Guidelines for the Treatment of Malaria" Second edition page 20

CATEGORIE: DRUG **QUININE SULFATE 300 MG: QUININE BISULFATE 300 TABLETS**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	TABLETS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Generic	Medopharm, India	*Tablets containing:* *• Quinine (anhydrous base) 100 mg,* *• Quinine bisulfate 169 mg,* *• Quinine dihydrochloride 122 mg,* *• Quinine sulfate 121 mg.* *N.B. Quinine bisulfate 300 mg tablets provide less quinine than 300 mg of the sulfate or dihydrochloride.*	Packed in a tamper-evident container of 1000 tablets	25,000	48X39X20	16.3	Store below 24℃	NO	36 Months
Generic	Microlabs, India	*Tablets containing:* *• Quinine (anhydrous base) 100 mg,* *• Quinine bisulfate 169 mg,* *• Quinine dihydrochloride 122 mg,* *• Quinine sulfate 121 mg.* *N.B. Quinine bisulfate 300 mg tablets provide less quinine than 300 mg of the sulfate or dihydrochloride.*	Packed in a tamper-evident container of 1000 tablets	48,000	38X32X38	22	Store below 24℃	NO	48 Months

World Health Organization Recommended Treatment Regimen	
CHILD	10 mg/kg (Quinine sulfate) every 8 hours for 3,7 or 10 days. Duration of the treatment depends on local susceptibility of P.falciparum and whether or not other anti-malarilas are alos used
ADULT	600 mg (Quinine sulfate) every 8 hours for 3,7, or 10 days

CATEGORIE: DRUG **QUININE HYDROCHLORIDE INJECTION, QUININE DIHYDROCHLORIDE INJECTION**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	AMP PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Generic	Gland Pharma, India	*Quinine hydrochloride injection, 300 mg/1ml*	100 Amp	To be confirmed	To be confirmed	To be confirmed	Store below 24℃	NO	36 Months
Generic	Gland Pharma, India	*Quinine dihydrochloride injection, 600 mg/2ml*	100 Amp	2,400	51X39X24	17.5	Store below 24℃	NO	36 Months

World Health Organization Recommended Treatment Regimen	
CHILD	Quinine Hydrochloride IV, 10mg/kg body weight of salt (max 600mg), 8 hourly in 5-10ml/kg body weight in 5% Dextrose (500ml) given over 4 hours until the patient can tolerate oral quinine
ADULT	Quinine Dihydrochloride IV, 10mg/kg body weight of salt, 8 hourly in 5-10ml/kg body weight (in 4.35% Dextrose in 0.18% normal saline) given over 4 hours until the patient can tolerate oral quinine

CATEGORIE: DRUG **SULFADOXINE PYRIMETHAMINE (SP)***

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	TABLETS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Generic	IPCA, INDIA	Tablets containing: Sulphadoxine 500 mg+ Pyrimethamine 25 mg	Packed in pots of 1000 tablets 28 packs per carton	28,000	56X40X21	21.16	Store below 24℃	NO	36 months
Generic	Strides, India	Tablets containing: Sulphadoxine 500 mg+ Pyrimethamine 25 mg	Packed in pots of 1000 tablets 30 packs per carton	30,000	49X32X35	26.18	Store below 24℃	NO	36 Months

* List not exhaustive of project can procure

World Health Organization Recommended Treatment Regimen	
First Dose of 3 tablets	After quickening or 16 weeks of pregnancy
Second Dose of 3 tablets	At least one month after first dose
Third Dose of 3 tablets	At least one month after second dose

CATEGORIE: DRUG **ARTESUNATE 50MG, RECTOCAPS**

BRAND NAME	MANUFACTURER	STRENGTH / FORM	PRESENTATION	STRIPS PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
Generic	Mepha Ldt.	Suppositories	Strip Aluminium - 6 Supps per strip	210	69X39X36	6.7	Store below 24℃	NO	24 months

	Manufacturer recommended dosage
Children	Dosage to be adjusted according to body weight using the 50 mg formulation as follow: • Day 1: 5 mg/kg twice daily • Day 2 to 5: 5 mg/kg/day in once daily dose
Adults	Dosage to be adjusted according to body weight using the 50 mg formulation as follow: • Day 1: 5 mg/kg twice daily • Day 2 to 5: 200 mg/day in once daily doses • Total Artesunate dose: 1200 mg

CATEGORIE: TESTS **RAPID DIAGNOSTIC TESTS**

BRAND NAME	MANUFACTURER	PRESENTATION	TESTS PER PACK	PACK PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO PRE-QUALIFIED	SHELF LIFE
CareStart ®	AccessBio, USA	Single kit format (all components in 1 pack) or professional format (components are separated)	40	40	53X50X36	18.4	Store in a cool and dry area, between 4° and 30°C	No	3 years
Malaria Pf ®	ICT, South Africa	Single Kit	25	20	32X32X30	6.3			2 years
BinaxNOW ®	Inverness Medical, USA	Single Kit	25	36	26X18X14	17.7			2 years
Paracheck ®	Orchid Biomedical Systems, India	Single Kit	25	40	56X43X36	14.8			2 years
First Response®	Premier Medical Corp, USA	Single Kit	30	40	40X40X50	14			2 years
ParaHIT ® Dipstick	Span Diagnostics, India	Single Kit	25	60	55X38X41	9.8			2 years
Bioline ®	Standard Diagnostics, Korea	Single Kit	25	35	53X48X40	12			2 years

CATEGORIE: NETS **BED NETS**

BRAND NAME	MANUFACTURER	TYPE	INSECTICIDES USED	WHOPES	UNIT PER BOX	STANDARD PACKAGE DIMENSIONS (cms)	STANDARD PACKAGE WEIGHT (kgs)	STORAGE	WHO STATUS OF RECOMMENDATION (as of 08/2009)	SHELF LIFE
Interceptor ®	BASF Germany	Polyester LNs	Alpha-cypermethrin	Whopes II	Most of the bales contain between 40 and 100 bed nets. A 40 ft container can hold several hundreds bales (average between 500 and 600)	The volume of a bale is variable. As an example, the volume of a "Olyset Net Extra Family Size" is 0.13 cbm	Most of the bales weigh between 20 and 50 kgs	Store in a cool and dry place	Interim	Between 3 and 5 years for Long Lasting Nets Depends on number of washes and overall use
Netprotect ®	BESTNET Europe Ltd England	Polyethylene LNs	Deltamethrin	Whopes II					Interim	
DuraNet ®	Clarke USA	Polyethylene LNs	Alpha-cypermethrin	Whopes II					Interim	
Olyset ®	Sumitomo Chemical, Japan	Polyethylene LNs	Permethrin	Whopes III					Full	
DawaPlus ®	Tina Netting Thailland	Polyester LNs	Deltamethrin	Whopes II					Interim	
PermaNet ®	Vestergaard Frandsen Switzerland	Polyester LNs	Deltamethrin	Whopes III					Full for PermaNet 2.0, Interim for 2.5 and 3.0 models	

Appendix J

Deliverables Status for FY2011

Proposed Deliverable	Person Responsible	Due	Status
Objective 1	**Budget: $3,709,988**		
Procurement scorecard	L. Todhunter	Reported in Semi-Annual Report (May 15, 2011) and Annual Report (November 15, 2011)	
Updated list of pre-approved vendors for malaria commodities	M. Jaureguizar	RDTs: 1st quarter FY11	Completed
	M. Jaureguizar	LLINs: TBD	
	M. Jaureguizar	Pharmaceuticals: as new pharmaceuticals become available/WHO pre-qualified	
Develop and maintain order plans for planned procurements	Order and Supply Coordinator	Provide updated copies in the annual report and upon request	Order plans have been updated based on information in the most recent CPIRs that we have received. Discussing with Sonali how best to inform countries about TO3 pipeline and TO7 early release funds
Product Fact Sheets	T. Ndoye	As new products, product information or packaging become available	Need to add artesunate injection based on revised case management guidelines. Will do it by April 15, 2011
Freight rate validation	E. Segtore	Reported in Annual Report (November 15, 2009 and 2010)	

Proposed Deliverable	Person Responsible	Due	Status
ACT freight and logistics analysis	G. Rebour	2nd Quarter FY2011	Final draft submitted for review on March 31, 2011. Focus on managing the stockpile
QA Report Card	S. Hamel	Reported in Semi-annual Report (May 15, 2011) and Annual Report (November 15, 2011)	
FIND RDT Lot-testing Update	S. Hamel	Reported in Semi-annual Report (May 15, 2011) and Annual Report (November 15, 2011)	
LLIN Analysis	G. Rebour	September 30 2011	This deliverable was added at the request of Sonali and replaces the morbidity/availability analysis. Similar to the LLIN analysis conducted last year.
DelPHi system is available according to service level agreement.	L. Oligar	Continuously. Uptime statistics for the system are reported monthly in the MIS Performance Metrics Report.	
MIS Maintenance status report showing completed and in-progress projects, as directed by the Change Control Board.	L. Oligar	Reporting on system modifications continues on a weekly basis.	Sent weekly.
Objective 2	**Budget: $2,711,423**		STATUS
Timely mobilization and response to USAID requests for technical assistance	L. Hare	Periodic	N/A
Updated country work plans	L. Hare T. Ndoye N. Printz	October 31, 2010, October 31, 2011	All workplans have received Mission approval, except Mozambique.
End-Use verification reports	M. Frost	January 31, 2011; April 30, 2011; July 31, 2011; October 31, 2011	Ghana and Zambia submitted.
Two-page malaria logistics highlights	T. Ndoye	Two per year posted on website	Currently identifying potential topic areas.

Proposed Deliverable	Person Responsible	Due	Status
Paper on Zambia malaria/essential medicines logistics system pilot results	N. Printz	3rd Quarter FY2011	
Linking LMIS and HMIS data • Report highlighting root cause of differences in data • GIS maps with HMIS and LMIS data	N. Printz	September 2011	Working to identify countries.
Malaria section of JO course	T. Ndoye	January 2011 and June 2011	First JO course completed and deliverables sent.
PMSS analysis and implementation	T. Ndoye	March 2011	All countries completed. except Mozambique.
PPMRm reports	M. Nelson	October 2010; January 2011; April 2011; July 2011; October 2011; January 2012; April 2012	Submitted October 2010 and January 2011 reports.
Analysis demonstrating link between product availability and malaria indicators	M. Frost	2nd Quarter FY2011	Unable to get the data required for the analysis. Agreed to remove from deliverables and add LLIN analysis instead.
Malaria supply chain logistics guidelines • Draft guidelines • Published guidelines	T. Ndoye	 1st Quarter FY2011 2nd Quarter FY2011	Final guidelines submitted and posted, March 31, 2011.
Review and field testing of RBM PSM-WG/MSH quantification guide. Participation in review meeting.	N. Printz	2nd Quarter FY2011 3rd Quarter FY2011	Reviewed and sent comments 1/7; Participated in review of 2nd draft March 24–25. Agreed to next steps: Participate in small group to revise methods and supply planning section (Naomi). MSH to send draft by May 15. Comments due early June. MSH finalize end of June. Field test in July.
Regional meeting	L. Hare	3rd Quarter FY2011	Meeting will take place April 12–15 in Accra, Ghana.

Proposed Deliverable	Person Responsible	Due	Status
Objective 3	***Budget: $458,365***		
LLIN recycling pilot report	R. Rack	2nd Quarter FY2011	Draft report covering initial phases of pilot submitted March 31, 2011. Final report will submitted after final phase (TREX analysis).
LLIN retire and reuse meeting	R. Rack	4th Quarter FY2011	A tentative date has been set for September 2011.
RDT disposal pamphlet	R. Rack	2nd Quarter FY2011	Final draft submitted March 31, 2011.
Meeting briefing notes or presentations with recommendations	M. Nelson	TBD (depends on meeting/conference attendance)	Paul Stannard provided debriefs of his participation in the RBM PSM WG and market review meetings. Ralph Rack presented at AMP meeting.
Other	**Budget: $104,014**		
Annual Report for FY2010	L. Hare	Draft due November 15, 2010	Submitted and approved.
Semi-Annual Report for FY2011	L. Hare	Draft due May 15, 2011	
Work plan for FY2012	L. Hare	Draft due October 30, 2011	
Annual Report for FY2011	L. Hare	Draft due November 15, 2011	
Project Completion Report	L. Hare	June 1, 2012	

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