



Republic of Kenya

**Ministry of Public Health and Sanitation  
Division of Malaria Control**

**Strategic Approach and Action Plan  
aimed at improving Health Facility Level  
reporting of Malaria Medicine  
Consumption**

**December 2008**



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Strengthening  
Pharmaceutical  
Systems

Ministry of Public Health and Sanitation, December 2008

Published by the Division of Malaria Control (DOMC)

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Correct citation: Division of Malaria Control, Ministry of Public Health and Sanitation. 2008. *Strategic Approach and Action Plan aimed at Improving Health Facility Level Reporting of Malaria Medicine Consumption*. December 2008. Nairobi: Division of Malaria Control.

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## ACKNOWLEDGEMENTS

The Division of Malaria Control (DOMC), Ministry of Public Health and Sanitation, Kenya prepared this strategic approach and action plan with support from the U.S. Agency for International Development (USAID) through Management Sciences for Health's Strengthening Pharmaceutical Systems Program (MSH/SPS), under the terms of cooperative agreement number GHN-A-00-07-00002-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID.

The plan was compiled under the auspices of the Drug Supply Management Subcommittee of the DOMC's Drug Policy Technical Working Group in close consultation with staff of the Logistics Management Information Unit housed in the Kenya Medical Supplies Agency (KEMSA).

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### About the Division of Malaria Control

The DOMC was known as the National Malaria Control Programme (NMCP) until October 2000. The NMCP was created by the Government of Kenya in 1994. The elevation of the NMCP to the status of a division underscores the importance that the Government of Kenya attaches to malaria control. The DOMC is now directly under the Department of Preventive and Promotive Health Services. The Malaria Interagency Co-coordinating Committee advises and guides the Ministry of Public Health and Sanitation on national malaria policy, strategy, and priorities, and acts as a forum for exchange of information on partners' malaria control and research activities. The DOMC has the overall responsibility for planning and coordinating inputs and activities for malaria control at all levels.

## ACRONYMS

ACT	artemisinin-based combination therapy
AL	artemether-lumefantrine
DOMC	Division of Malaria Control
DPF	District Pharmaceutical Facilitator
DRH	Division of Reproductive Health
KEMSA	Kenya Medical Supplies Agency
LMIS	Logistics Management Information Systems
LMU	Logistics Management Unit
MICC	Malaria Interagency Co-ordinating Committee
MOPHS	Ministry of Public Health and Sanitation
MSH	Management Sciences for Health
NASCOP	National AIDS/STI Control Programme
NLTP	National Leprosy and Tuberculosis Program
NMCP	National Malaria Control Programme
SPS	Strengthening Pharmaceutical Systems (Program)
WHO	World Health Organization

## BACKGROUND

### Introduction

In May 2006, at the dawn of distributing artemether-lumefantrine (AL), the new first-line treatment for uncomplicated malaria, the Division of Malaria Control (DOMC) put in place an interim national system for tracking AL consumption at the health facility level. The system was established with financial support from the United States Agency for International Development (USAID) through Management Sciences for Health's Rational Pharmaceutical Plus Program.

The AL consumption tracking system was designed to provide a transparent record, or "paper trail," for the receipt, storage, and issue of AL by all government and mission health facilities. At the time of instituting this vertical interim system the Ministry of Medical Services (MOMS), Division of Pharmacy instituting did not have a tracking system for all medicines and the MOMS Health Management Information System Department was finalizing a standard format for tracking the different types of medicines and supplies distributed to public sector health facilities. The DOMC intended for the system to provide a short-term way to carefully track AL commodities to ensure stock availability, minimize wastage, reduce leakage, and importantly, to obtain consumption data for reordering and redistributing stocks.

The DOMC developed daily activity registers and monthly health facility summary forms and distributed them to health facilities nationwide with their AL shipments. All staff members dispensing AL at the facility level were instructed to record the quantities of medicines dispensed to patients. Then, at the end of every month, health facility staff members were required to summarize the AL dispensed over the entire month, stock remaining on hand, and the number of days stocked out and forward this information to pharmacy staff at the district level within the first week of the following month. Pharmacy staff at the district level, in turn, were required to forward disaggregated health facility monthly summary forms to the DOMC by the tenth day of the same month. The DOMC would in turn enter the data in an Access database and following data capture and analysis, the DOMC would use the reports to make resupply decisions; advice Kenya Medical Supplies Agency (KEMSA) on resupply decisions; provide feedback to the district and health facilities; and guide quantification.

Box 1 below summarizes the interim AL consumption tracking system.

#### Box 1: Architecture of the AL Consumption Tracking System

**Tools:** Artemether-lumefantrine register, bin cards, delivery notes, issue/requisition voucher, monthly processing sheets

**Reporting System:** Each dispensing point maintains daily register and monthly summary forms; facility in-charge counter-signs forms; facilities send forms to the district; district collates and posts them to DOMC/KEMSA

**Information Management:** DOMC enters data from forms into Access database; reports generated include stock-out status, average adjusted monthly consumption, and reporting rates; stakeholders (Global Fund, World Health Organization, Ministry of Public Health and Sanitation headquarters) monitor reports required for indicator sets; DOMC uses reports to generate orders, reschedule deliveries, deal with expiries, identify areas of intervention, and evaluate performance

**Roles and Responsibilities:** Dispenser maintains registers; health facility in-charge compiles monthly summaries; district pharmaceutical facilitator collates facility reports; DOMC performs data entry, analysis, and report generation

## **Challenges of the AL Interim Consumption Tracking System**

One year post –institution of this interim system, it was evaluated and the DOMC noted the following system challenges—

- Reporting rates from the health facilities to the relevant central level divisions were very low, fluctuating between 10 and 19 percent
- Very few facilities reported consistently
- Reports were inaccurate and incomplete
- Some facilities reported directly to the DOMC and in the process by-passed district level pharmacy staff

The DOMC attributed the challenges largely to not having communicated the rationale for and importance of AL consumption tracking in the new malaria treatment policy case-management and drug management trainings, which collectively targeted almost 9,000 health workers nationwide. The tracking system had been designed after the roll-out of trainings to the districts and sensitization to the existence and guidance on roles and responsibilities in support of the system had been done through a circular issued to districts and facilities. In addition, the lack of institutionalization of the tracking systems' standard operating procedures within the Division of Pharmacy made follow-up intended to yield better reporting rates difficult to achieve. Although few reports were received in an ad hoc fashion, DOMC staff number limitation meant that they found follow-up calls to the district and data capturing rather overwhelming.

The challenges to the interim AL consumption tracking system constrained information needed by—

- District pharmacists/technologists and KEMSA regional and field liaison officers to enable them monitor and manage stock levels, including early-expiry medicines
- DOMC and KEMSA to quantify medicine needs based on consumption and make central-level resupply decisions
- DOMC to generate complete monitoring reports on Global Fund pharmaceutical management indicators

## STRATEGIC APPROACH TO IMPROVE THE REPORTING SYSTEM

In May 2007, the DOMC and its pharmaceutical management stakeholders decided to define a strategy to ensure that the pertinent central level divisions namely the DOMC, DOP, KEMSA and the Mission for Essential Drugs and Supplies (MEDS), receive ample and appropriate information on AL consumption from health facilities supplied medicines by KEMSA and MEDS. Stakeholders agreed that given the success of the KEMSA-housed Logistics Management Information Unit (LMU) and its established Logistics Management Information Systems (LMIS) support to other MOPHS divisions, the strategic direction should be to include the DOMC in the list of beneficiary divisions for LMU/LMIS support. In order to achieve this there was a need to (1) map out and agree on components of the malaria commodity logistics system (e.g., commodity flow, inventory management, information flow and feedback); (2) review and redesign data collecting/reporting tools; (3) develop training curricula to embrace the LMIS system design and train health staff; and (4) print and distribute tools.

Box 2 describes the LMU/LMIS establishment and structure and Box 3 summarizes the nature of ongoing program support as well as achievements by MOPHS divisions such as the Division of Reproductive Health (DRH), National AIDS/STI Control Programme (NASCOP), National Leprosy and Tuberculosis Programme (NLTP) etc as a result of LMU/LMIS support.

### Box 2: LMU/LMIS Establishment and Structure

- The LMU was initially established under the John Snow, Inc. Family Planning and Logistics Management Project in 1995, located at the Division of Reproductive Health.
- The LMU/LMIS initially focused on monitoring and ensuring security of sexually transmitted infection-related commodities, but in 2000, the scope of programs increased to include tuberculosis and antiretroviral therapy commodities, HIV test kits, condoms, and laboratory reagents.
- In 2007, Management Sciences for Health's Strengthening Pharmaceutical System's (SPS) Program took over the management of the LMU/LMIS.
- The LMIS currently consists of data and information processing integration with a single Oracle database with shared resources for easy management and monitoring. KEMSA has housed the LMU/LMIS since 2002.
- The Oracle database in use at the LMU is robust, allows large data/information storage, and multiple user/access capabilities. The current database has 50 user licenses and both the database and application operate 24 hours a day/7 days a week.

### **Box 3: LMU/LMIS Support to MOPHS Programs and Achievements**

#### **Program Support**

- Design a logistics system that includes a commodity pipeline, information pipeline, roles and responsibilities, standard operating procedure development process, and reporting system
- Design and develop data collection/reporting tools
- Develop curriculum and train users
- Distribute tools
- Provide courier service to gather LMIS reports from the health facilities to LMU
- Facilitate communication to field officers to collect LMIS reports
- Facilitate monitoring and evaluation and supervision trips
- Facilitate workshops
- Provide workstations, database/application server, database administration/back-up facilities, application enhancement/customization, and data entry personnel
- Generate data to inform pharmaceutical resupply orders

#### **Program Achievements**

- Data available to programs for decision-making and assessment of national stock status (determines how long the supplies will last nationally)
- 
- Information available on where stock is in the pipeline. This that helps identify expiration problems; informs on whether the pipeline levels are keeping the appropriate quantities on hand
- Efficient and effective forecasts and quantification of commodity needs using accurate consumption data and other supplementary health information system data elements collected through the LMIS
- Data available for program monitoring and evaluation as well as supervision planning
- Informed planning and decision-making for public health program scale-up
- Comprehensive, donor-specific reports available on commodities
- Improved reporting rates (e.g., 100 percent reporting rate for antiretroviral therapy central sites) due to active follow up of all health facilities

The first step in implementing the defined strategic approach was to organize a stakeholder workshop with relevant pharmaceutical management stakeholders to review the LMU's LMIS framework and to ascertain how the LMU could include the DOMC in its support of MOPHS programs. The initial stakeholder workshop was held on October 19, 2007 at the Panafric Hotel in Nairobi.

## 1. Stakeholder Workshop (1)

The workshop was designed to be highly participatory and included stakeholders from all levels of Kenya’s public health sector—health facility, district, provincial, and central.

The objectives of the one-day stakeholder workshop were to—

- Provide stakeholders with an overview of key pharmaceutical logistics concepts and to introduce them to the LMIS and its management unit, the LMU
- Evaluate and identify gaps in the existing artemisinin-based combination therapy (ACT) tracking system
- Determine how the existing ACT tracking system could link with the existing LMIS system

To achieve the objectives, workshop participants evaluated the interim ACT tracking system, including the related tools (Table 1), with an eye toward making the system more efficient (*see Appendix A for workshop agenda and participant list*).

**Table 1. Tools used in the interim ACT Tracking System**

Health System Level	Responsibility	Records and Reports	Forms No.
Facility/ service delivery point	Facility-In charge/Dispenser	Daily activity registers for AL	—
		Counter requisition and issue voucher	S11
		Stock control card	—
		Monthly facility summary report	—
District	District Pharmaceutical Facilitator	Issue and receipt voucher	S12
		Inventory control cards	—
		District monthly AL summary report	—
		Stores ledger card	S3
Central	Central Warehouse Manager	Bin card	S5
		Stock adjustment card	S16
		Counter requisition and issue voucher	S11
		Issue and receipt voucher	S12
		Counter receipt voucher	S13
		Summary feedback reports	—

— = not applicable

Workshop participants with technical leadership from MSH staff managing the LMU conferred, defined and made resolutions on issues as follows –

- **LMIS Definition**

Manual or computerized system that collects, processes and reports logistics data

Comprises all the activities that involve;

- Recording logistics data in records and forms,
- Processing the data into information
- Information presentation and interpretation

- **Purpose of envisioned LMIS for malaria commodities**

Collects data, organizes data, reports data for decision making

- **LMIS – Benefits**

Accountability for all products in the supply chain

A reduction in supply imbalances (stock outs, overstocks) at health facilities and medical stores

Efficient, cost-effective supply chain management

- Improved level of care
- Improved Impact
- Informed supply chain management decisions

- **LMIS Data Reporting System**

**Design Considerations –**

- 1) What decisions need to be made?
- 2) What data items are needed to make those decisions?
- 3) What forms or tools are required to collect this data?
- 4) How often data is required for decision-making?
  - Reporting frequency
- 5) How soon the data is required for decision-making?
  - Reporting deadline
- 6) Who is responsible for reporting?
  - Reporting officer
- 7) Number of levels in the logistics system?
  - e.g. Facility → District → Provincial → National
- 8) To whom are the reports sent?

- District program officer, Provincial program officer, national program officer, etc
- 9) How are the reports transmitted?
  - Courier, email, hand delivery, Post Office etc
- 10) How is feedback provided?
  - Content
  - Format
  - Distribution flow etc

- **Essential LMIS data elements**

**Stock on Hand:** Quantities of usable stock available at all levels of the Pipeline.

**Consumption/dispensed Data:** Quantities that are dispensed to clients/patients at the end of the commodity pipeline.

**Losses & Adjustments:**

- **Losses** – Quantity of stock removed from the pipeline for any reason other than consumption by patient.
- **Adjustments** – Difference between the physical count and what is recorded in the Bin cards.

- **Other Data Elements for LMIS Management**

**Beginning Balance:** Stocks at the beginning of the review period

**Quantity Received:** Quantity received during the review Period

**Quantity Withdrawn:** Quantity removed from the pipeline during the review period

**Quantity Expired:** Quantity that expired during the review period

**Quantity Required:** Quantity needed for re-supply

**Early Expiry date**

**Quantity within the early expiry date**

- **LMIS Data Collecting Tools**

**Stock keeping records:** Records that capture information about products in storage.

- Bin Card
- Inventory Control Card

**Transaction records:** Records that capture information about products being moved.

- Issue Vouchers
- Requisition and Issue Vouchers (S11/S12)

**Consumption records:** Records that capture information about products being consumed.

- Daily Activity Register (DAR)
- Health Facility Monthly Summary Report Form

- **LMIS Data Reporting - Summary Reports**

**Health Facilities Consumption Data Reports**

**Districts Consumption Data Report**

**Essential features of summary reports**

- contain all the essential logistics data elements
- must be completed by the person responsible for collecting the essential data elements
- must be completed at the end of the reporting period
- should be self-balancing

- **Feed Back Report**

Inform lower levels about their performance

- Used to motivate lower levels

Inform managers at higher levels about how the LMIS System is functioning

May help solve problems by including errors seen on facility reports and how to correct them

May inform facilities about how other facilities are reporting

At the end of the workshop, all participants agreed that investment in the LMIS would definitely pay off in the program's impact and efficiency.

***Outputs from the Stakeholder Workshop (1)***

The participants' primary output were the agreements listed above on the design of the envisioned LMIS for malaria commodities; the essential LMIS data elements and other data elements; the type of data collecting tools, summary and feedback reports; field staff needs; and LMU needs.

***Recommendations from the Stakeholder Workshop (1)***

A list of recommendations was developed based on the situational analysis—

- KEMSA should maintain a minimum of six months of stock and a maximum of nine months of stock on hand of malaria pharmaceuticals and commodities; provincial, district and sub-district hospitals should maintain a maximum of four months and a minimum of two months of stock; rural health facilities should maintain a maximum of six months and a minimum of three months of stock.
- KEMSA should distribute malaria medicines consistently to prevent stock-outs and minimize wastage.

- Rural health facilities should send their reports to the District Pharmaceutical Facilitator (DPF) by the fifth of each month, and the DPF should then send these reports to the LMU by the tenth of each month.
- Mission hospitals should send their monthly reports directly to LMU by the tenth of every month.
- Provincial and district hospitals should send their monthly consumption reports to LMU by the tenth of every month.
- The DPF, the district pharmacist, or an officer appointed by the MOPHS (for districts without a district pharmacist) should carry out malaria inventory management activities as part of his or her other duties.
- The DPF should be responsible for—
  - Collating and sending the monthly consumption reports for the district to the LMU
  - Conducting supportive supervision visits and job training to health workers on ACT tracking system
  - The district pharmacist should manage buffer stock at the district stores to prevent a stock out in facilities whose supplies drop below minimum.
- Funds should be provided to support courier services to transmit reports (e.g., using Securicor accounts).
- The DOMC should ensure that the information and commodity tracking tools are distributed and available in health facilities at all times.
- DOMC should organize workshops to create awareness and train health care workers on managing malaria medicines and implementing standard operating procedures for appropriate dispensing.
- The DOMC should regularly assess the pharmaceutical management system to determine accomplishments and challenges.
- Additional staff needs should be addressed at the DOMC/LMU as recommended—
  - Four data entry clerks at LMU
  - One pharmacist/ pharmaceutical technologist at LMU
  - One monitoring and evaluation officer at LMU

## **2. Managing the Transition from Interim ACT Tracking System to LMIS**

Following the first stakeholder workshop that identified the gaps in the ACT consumption tracking system, the DOMC invested time in building consensus individually with its stakeholders not present at stakeholder workshop 1. In addition, due to the continued need to for the DOMC to achieve continued planning and decision-making for public health program scale-up and to provide comprehensive, donor-specific reports on commodity consumption, MSH provided support to the interim tracking system in the form of active data collection activities. Data collection was targeted at the districts with the intention of gathering consumption data for the period July 2006 – July 2008.

The DOMC developed tools and instructions for use that were sent out to all DPFs country wide with a cover letter informing them about the activity. DPFs were requested to obtain the requisite information from health facilities in their respective districts for filling the tools and send the reports within given time lines to the MSH/DOMC for collation and analysis. DPFs were provided with communication allowance for the exercise. The information obtained was used to generate reports on district reporting rates; consumption by weight band; stock on hand;(see *Appendix B for a summary report of 2 fast-track collections and Appendix C for protocol for the upcoming final fast-track data collection exercise*).

### **Stakeholder Workshop (2)**

A second two-day stakeholders' workshop was held on May 15–16, 2008 at Nairobi Safari Club. Although planned to happen much earlier, the second workshop was delayed as a result of the unsettlement of most health staff during the post-election violence phase that prevailed in Kenya in the first quarter of the year 2008. Participants attending the workshop represented the Ministry of Public Health and Sanitation (MOPHS), DOMC, KEMSA, the Department of Pharmacy, MSH, and included district and provincial pharmacists.

The stakeholder workshop was a two-day event designed to—

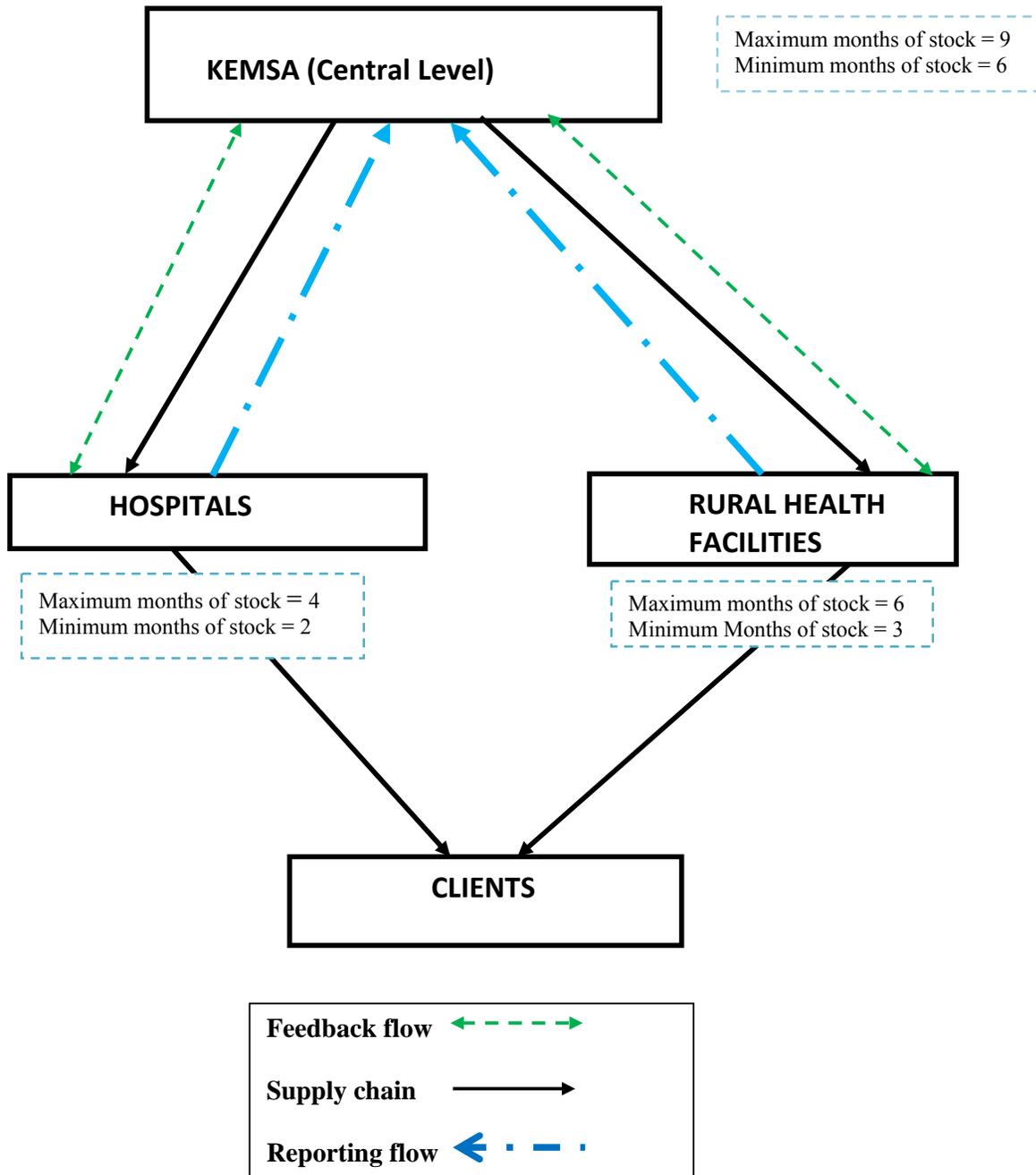
- Disseminate the main findings of the first workshop held on October 19, 2007
- Share information on tools used by other divisions such as the National AIDS and Sexually Transmitted Infection Control Programme and Division of Reproductive Health
- Revise the interim consumption tracking tools and commodity pipeline and information flow, and determine quantities needed for national rollout

### **Outputs from the Stakeholder Workshop (2)**

Participants (*see Appendix D*) of the stakeholder workshop revised drafts of several malaria medicine consumption tracking tools, including the daily activity register, health facility monthly summary, and district monthly summary.

In addition, participants revised the information and commodity flow pipeline developed in the first stakeholder workshop to exclude the district as a storage point for buffer stock (Figure 1).

**Figure 1: Pipeline for antimalarial commodities**



## **Recommendations from the Stakeholder Workshop (2)**

- The revised tools should be pretested in selected districts and reviewed prior to final adoption and national rollout.
- KEMSA should continue to send AL directly to hospitals and rural health facilities in line with the revised information and commodity flow pipeline (Figure 1).
- According to the revised information and commodity flow pipeline, facilities should fill out the AL register daily, and then at the end of the month, summarize stock on hand, consumption data, and days out of stock for the health facility monthly summary. Facilities should send the forms to the DPF by the fifth of every month.
- The DPF should aggregate the facilities' information on stock on hand, losses, expiries, and adjusted consumption, as well as number of facilities that are stocked out for more than seven days. The DPF will also calculate the district reporting rate and aggregate the number of patients on AL per weight band.

## **3. Stakeholder Workshop (3)**

Following the second stakeholder workshop, where participants revised the commodity and information flow pipeline and tools, a third workshop was held at the Outspan Hotel in Nyeri from June 16–20, 2008. The main objective of this workshop was to develop a training curriculum package for the effective management of malaria medicines. The curriculum package comprised a curriculum and implementation guide, trainers manual and participants manual.

Participants represented at the workshop were the MOPHS, DOMC, KEMSA, the Department of Pharmacy, MSH, and district and provincial pharmacists (*see Appendix E*).

The participants developed the modular curriculum package which included a module on information management.

In addition, workshop participants further reviewed the revised draft facility and district tools and incorporated them as appendices on commodity and information management; in addition, they drafted instructions on how to fill out the different consumption tracking tools and developed exercises that would help emphasize the essential principles taught to participants during the planned training.

## **Outputs of the Stakeholder Workshop (3)**

- Draft curriculum and implementation guideline on effective management of antimalarial medicines
- Draft trainers' manual on effective management of antimalarial medicines
- Draft participants' manual on effective management of antimalarial medicines
- Draft revised daily activity registers and health facility and district monthly summary tools with instructions for filling them out

### **Recommendations from Stakeholder Workshop (3)**

- Develop an Excel-based district summary tool to help DPFs with access to computers and Internet services aggregate the health facility monthly summaries
- Develop a field-testing protocol to pretest the revised malaria medicine consumption tracking tools as proposed in stakeholder workshop 2

#### **4. Pretest of the Revised Consumption Tracking Tools**

Following the recommendations from stakeholder workshop 3, the DOMC with MSH support developed an Excel-based district aggregation tool. The Drug Supply Management Subcommittee of DOMC's Drug Policy Technical Working Group adopted the recommendation to pretest the redesigned draft AL consumption tracking tools in selected districts before finalizing, printing, and rolling them out nationally. The Subcommittee felt that field-testing these tools would ensure that they were suited for use at health facilities—easy-to-use and practicable. The DSMSC also proposed an investigation of the feasibility of the FTP system that was being introduced by HMIS during the pretest to establish the extent of its use. The FTP system is an electronic system used by HMIS for transmission of data from the districts directly to the central level for analysis and compilation. Six districts from varied epidemiological malaria zones were selected for the pretest, including Bureti, Garissa, Kilindini, Makueni, Nairobi, and Suba.

A field-testing protocol was developed to guide the pretest process (*Appendix F*). Twelve district health management team (DHMT) members representing the District Medical Officers of Health (DMOH) and DPF from each of the six selected districts were identified as trainers.

The 12 members underwent one-day training at the Fairview Hotel in Nairobi. (*See Appendix G for trainer list.*) The purpose of the training was to orient the trainers on the revised draft tools so they could train health workers from select health facilities within their districts to carry out the tool pretest. They mapped out a detailed plan for selecting 10 health facilities at various levels for the pretest. Each district team selected one district hospital, one sub-district hospital, two health centers, and six dispensaries that were as close to the district headquarters as possible to facilitate close monitoring.

The DOMC provided the trainers with hard copies of the draft tools and the electronic district aggregation tool to use in their district training. With financial support from MSH one-day workshops would be carried out, where the trainers would provide training in their respective districts. The trainers would then supervise the pretest over a two-week period.

The DMOHs and DPFs conducted the health workers' training in all six districts during the first week of August 2008. The health workers then pre-tested the daily AL register tool for 14 days and compiled a health summary report for the period. In addition, each health worker filled out a qualitative questionnaire to evaluate the tools (*Appendix H*). The health facility summaries were forwarded to the DPF. The DPFs entered the summary facility data into the electronic aggregation tool to create a district summary report. The DPFs also filled out a quantitative questionnaire after the pre-test (*Appendix I*).

Following the pretest, six interviewers were recruited and oriented to carry out a one-day field visit of at least two of the facilities where the pre-test was conducted. They also conducted focus group discussions with health workers, interviewed the DPF, collected the completed pre-test tools and questionnaires, and returned them to the DOMC.

After the field visits, the six interviewers attended a one-day debrief workshop at MSH offices, where they reviewed the completed tools from all 60 facilities that participated in the pretest. They also discussed the information they collected during the field visits, including the results of the focus group discussions, and considered how to incorporate the results into the final tools.

Conclusions from the tool pretest include—

- The one-day training on the revised draft tools was adequate to enable health workers learn how to use the tools at their facilities.
- Health workers preferred the revised tools because they included data elements such as expiries, losses, detailed information on patient age, and the blister size of AL received.
- The DPFs preferred to use the electronic tool because it made data aggregation and adjustments much simpler than manually entering data.

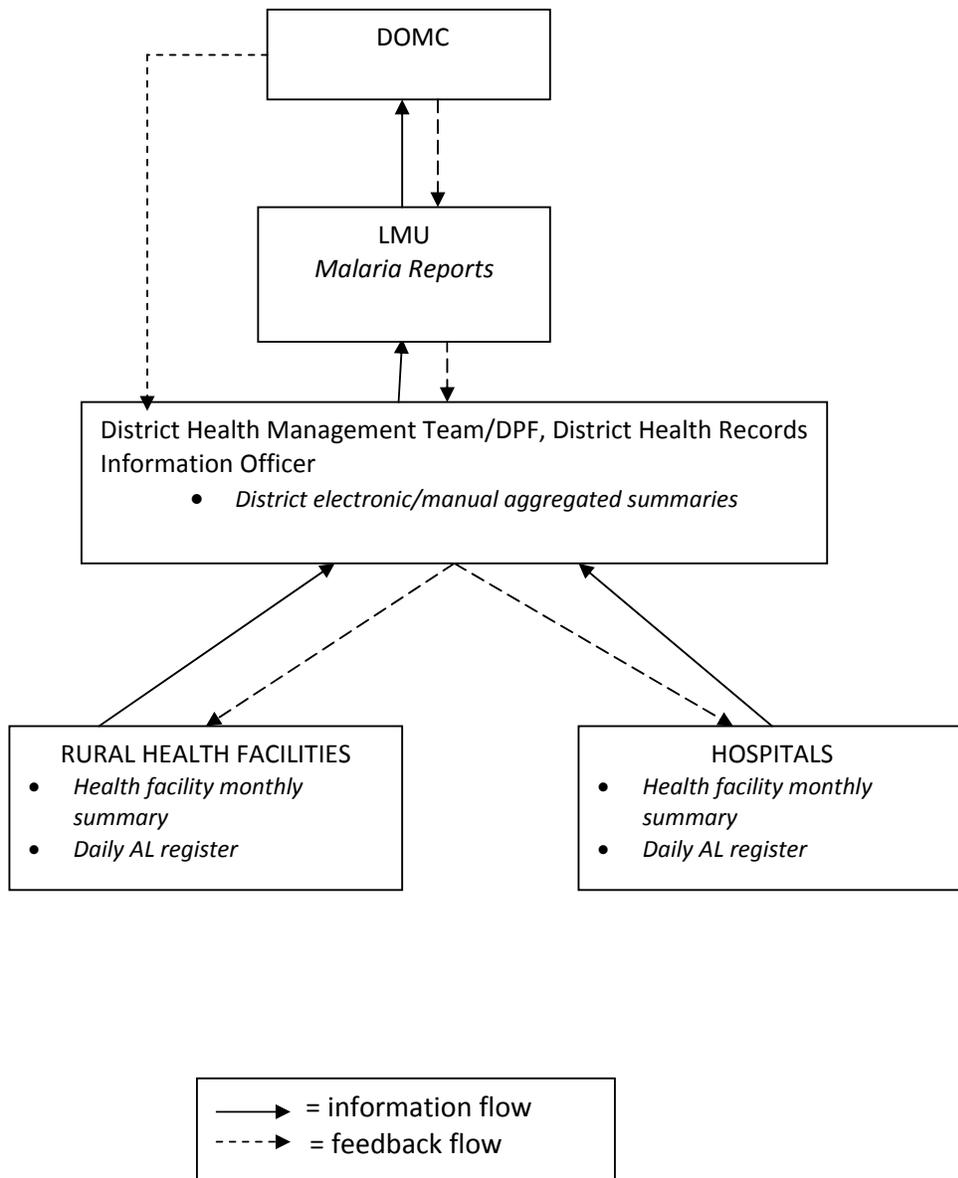
The FTP system was only available in 1 district (Garissa). In the other five districts, the staff interviewed had not received any training or been sensitized on FTP. It was agreed then that the best way to send data to LMU would be either manual reports via Securicor or electronic transmission for those with access to internet services.

The tools were revised to incorporate comments from the pre-test facility staff (*Appendix J*).

## **5. Linking to Logistics Management Unit**

One of the recommendations from the stakeholder workshops was to enhance ownership and usefulness of the consumption data at district level by having DPFs aggregate and analyze facility data for their own use and also send a district summary report to the LMU. The revised district summary report and the district electronic aggregation tool would enable the DPF to carry out this function (Figure 2).

**Figure 2: Information flow through the LMU**



The revised AL consumption tracking tools provide dates by which each report should be sent to the next level. Health facility monthly summaries should be sent to the district by the fifth of every month. Districts with Internet access will send aggregated reports to LMU by the twentieth of every month via e-mail. In areas without Internet access, MSH will support courier services to transport the manual summary report to the LMU by the twentieth of every month.

Working with MSH malaria and LMU teams, the DOMC has developed data screens that allow aggregated district data to be uploaded into the LMIS system and used to generate various reports for the DOMC.

Box 4 shows the LMU indicator set that will be used to generate national reports for DOMC.

**Box 4: LMU Indicator Set**

- National reporting rate
- Aggregated adjusted AL consumption
- Percentage of facilities stocked out of AL (all weight bands) for more than seven days
- Aggregated losses
- Aggregated expiries
- Aggregated number of patients on AL by weight band

**6. Malaria funding support to the Logistics Management Unit**

As part of the ongoing effort to ensure that the LMIS functions efficiently, additional staff needs being addressed at DOMC/LMU include –

- Recruitment of two additional data entry clerks at LMU (to be funded through MSH)
- Addition of LMU part-time support in the TOR of one DOMC pharmacist/pharmaceutical technologist and one DOMC monitoring and evaluation officer (*See Appendix K for TORs*)

In addition, using malaria funds, MSH will procure vital additional IT hardware and software for LMU to enable them fully support the malaria component of the LMIS.

**7. Capacity Building of targeted district and health facility staff on the use of LMIS**

The module on information management that was incorporated into the curriculum developed for effective management of malaria medicines will educate health workers countrywide on how to use the new tools. Training of health workers and LMIS tool dissemination will be carried out simultaneously, so that once training is conducted, health workers can begin to use the tools immediately. (*See Appendix L for training and tool dissemination plan*)

## CONCLUSIONS AND RECOMMENDATIONS

Although AL consumption tracking has been faced with numerous challenges, it is expected that the planned interventions in support of LMIS roll-out will improve the timeliness, accuracy, and reporting rates of public health facilities.

Interventions include—

- Training health workers on effective management of malaria medicines
- Training health workers on the use of AL consumption tracking tools
- Making AL consumption tracking tools available
- Supporting LMU with IT requirements and staff
- Managing the information and commodity pipeline flow
- Monitoring and evaluation

In addition, the Drug Supply Management Subcommittee of the DOMC's Drug Policy Technical Working Group recommends that the Division of Pharmacy play a supportive and supervisory role in ensuring that inventory management tools are available at all health facilities and commodity management information is captured, transmitted and used along all levels of the health system.

## APPENDIX A: AGENDA FOR LMU/LMIS WORKSHOP (1)

**Date: 19<sup>th</sup> October 2007**

**Venue: Pan Afric Hotel, Nairobi**

<b>Time</b>	<b>Session Topic</b>	<b>Presenter</b>
9.00-9.15am	Opening and introductions	Gladys Tetteh
9.15-9.30am	Overview of the Problem	Dorothy Naisiae
9.30-10.15am	LMIS inputs and outputs: Concepts of Commodity Flow, Inventory Management, Information Flow & Feedback	Mercy Maina and Cecilia Muiva
10.15-10.30am	TEA BREAK	
10.30-11.30am	LMU/LMIS support to other divisions such as DRH and NASCOP: Inputs, performance and challenges	Mercy Maina
11.30-12.30pm	Review of current antimalarial supply chain and inventory management – system, tools, personnel, monitoring & supervision	Dorothy Naisiae Mildred Shieshia
12.30-1.30pm	LUNCH	
1.30-2.30pm	Review of interim ACT tracking system – system, tools, personnel, monitoring & supervision	Dorothy Naisiae
2.30-3.30pm	Gap identification and mapping out improved process	All
3.30-3.45pm	TEA BREAK	
3.45pm-5.00pm	Development of detailed plan with activities, inputs, timelines, resource needs (funds, personnel), performance indicators and measurement methods	All
5.00pm	Next steps and Close	Abdinasir Amin

## LIST OF PARTICIPANTS AT THE LMU /LMIS WORKSHOP

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## APPENDIX B

### **Summary report on a rapid initiative to retrieve AL consumption data from health facilities in Kenya**

#### **Background**

The DOMC began the deployment of AL in health facilities in Kenya in June 2006. With this came the need to set up systems to for efficient drug management. With support from MSH/RPM plus an interim tracking system was developed to capture AL consumption data. Tracking tools were developed, printed and supplied to all government health facilities country wide to record AL consumption, stock on hand and stock out days. A database, resident and operated from the DOMC was developed to capture information from the monthly summaries from all health facilities supplied with AL. The system was operationalised and processed data from the date of first dispatch to health facilities. The reporting rate from health facilities was low fluctuating between 10-19%. The reports submitted were also incomplete and inaccurate.

The DOMC with support from MSH/SPS is in the process of rolling out an approach to improve the collection and analysis of AL consumption data. As part of the approach there has been an ongoing revision of AL tracking tools to include more data sets, revision of the information flow pipeline, development of curricula to train health workers on effective management of malaria medicines and roll-out of a plan to incorporate reporting on malaria medicine consumption data into an integrated LMIS system at the LMU. Once health workers are trained on the revised malaria commodity use tools they will submit reports to the districts for aggregation then onward transmission to LMU for collation and generation of reports for the DOMC.

In the interim, in order to satisfy the reporting requirements of Global Fund round 4 phase I, the DOMC in collaboration with MSH/ SPS had to rapidly and actively obtain AL consumption data for the six-month implementation periods 1<sup>st</sup> July 2006 - 31<sup>st</sup> January 2007, 1<sup>st</sup> February 2007 - 1<sup>st</sup> July 2007 and 1<sup>st</sup> August 2007 - 31<sup>st</sup> January 2008 as one activity and the periods 1<sup>st</sup> February – 31<sup>st</sup> July 2008 as a second activity.

#### **OBJECTIVES**

The objectives of the rapid initiative are summarized as follows -

- a) To update the contact list of District Pharmaceutical Facilitators
- b) To obtain the artemether- lumefantrine (AL) consumption for the listed periods for all districts.
- c) To determine the number of facilities reporting stock-outs

#### **METHODOLOGY**

A manual data collection tool was developed for collection of data on stock out days, stock on hand and quantity of AL received and consumed for the periods listed. An excel based electronic aggregation and summary tool was also developed for entering and compiling the data obtained. A letter addressed to the DMOH and copied to the District Pharmaceutical Facilitator (DPF) including the data collection tools were sent to all the districts with instructions for completion. The District Pharmaceutical facilitators were issued with airtime to facilitate the collection of data from the facilities in their districts.

Three data entry clerks were recruited for each 10 day exercise. The data entry clerk's tasks

were to contact the DPFs by phone to confirm receipt of the tools, remind them of the importance of the activity , clarify any queries regarding the activity and followed up to ensure timely submission of the reports within the given time lines.

The reports received from the various health facilities within their districts were summarized and sent this back to Division of Malaria Control ( DOMC) through courier services availed by MSH/SPS. The data entry clerks then manually entered the data onto an excel sheet for analysis by the M& E focal point in the DOMC.

## **CHALLENGES**

1. DPF contacts were not up-to date, some of them had left service or been transferred to other districts/ stations and following up to obtain new contact persons took up a lot of the allocated time for the activity.
2. There were delays by the courier service in delivery of tools to far flung districts. -As a result some districts did not receive the tools at all which had to be sent later through email, requiring extension of the report deadline initially given to them.
3. The response rate from the districts fell below DOMC/MSH expectation. Although over 90% of the districts were contacted for the activities, some of the DPFs did not report; some provided incomplete and incoherent information; and reporting rate by facility even for reporting districts was very low. Some districts did not follow the required reporting format. They reported on monthly basis instead of the stipulated combined six month period. This impaired the quick compilation of the report.*(for the 1<sup>st</sup> reporting period)*
4. Some DPFs reported difficulties in obtaining data from the health facilities in their districts. The facility staff argued that they lacked reporting tools or *had no one responsible for documenting their inventory.*

**Table 1: Summary of results for grant implementation periods:****1<sup>st</sup> July 2006 to 31<sup>st</sup> January 2007****1<sup>st</sup> February 2007 to 1<sup>st</sup> July 2007****1<sup>st</sup> August 2008 to 31<sup>st</sup> January 2008**

79 districts were contacted and only 59 responded in submitting correctly completed forms. This represents 75% reporting rate.

<b>Artemether-Lumefantrine 5-14KG</b>	<b>Stock carried forward (a)</b>	<b>Total doses received (b)</b>	<b>Stock on hand (c)</b>	<b>Total doses consumed (a+b-c)</b>
1st July 2006-31st January 2007		603,147	283,772	319,375
1st February 2006-31st July 2007	242,635	851,892	620,178	474,349
1st August 2007-31st January 2008	586,574	346,823	403,614	529,783
<b>Total</b>			<b>1,307,564</b>	<b>1,323,507</b>
<b>Artemether-Lumefantrine 15-24KG</b>	<b>Stock carried forward (a)</b>	<b>Total doses received (b)</b>	<b>Stock on hand (c)</b>	<b>Total doses consumed (a+b-c)</b>
1st July 2006-31st January 2007		578,571	302,412	276,159
1st February 2006-31st July 2007	257,297	858,800	708,891	407,206
1st August 2007-31st January 2008	688,898	307,371	465,946	530,323
<b>Total</b>			<b>1,477,249</b>	<b>1,213,688</b>
<b>Artemether-Lumefantrine 25-34KG</b>	<b>Stock carried forward (a)</b>	<b>Total doses received (b)</b>	<b>Stock on hand (c)</b>	<b>Total doses consumed (a+b-c)</b>
1st July 2006-31st January 2007		283,336	144,736	138,600
1st February 2006-31st July 2007	117,346	564,476	437,818	244,004
1st August 2007-31st January 2008	418,942	234,552	291,831	361,663
<b>Total</b>			<b>874,385</b>	<b>744,267</b>
<b>Artemether-Lumefantrine 35+KG</b>	<b>Stock carried forward (a)</b>	<b>Total doses received (b)</b>	<b>Stock on hand (c)</b>	<b>Total doses consumed (a+b-c)</b>
1st July 2006-31st January 2007		374,690	101,363	273,327
1st February 2006-31st July 2007	81,603	809,307	412,402	478,508
1st August 2007-31st January 2008	400,827	230,683	228,814	402,696
<b>Total</b>			<b>742,579</b>	<b>1,154,531</b>
<b>Artemether-Lumefantrine All Age Bands</b>	<b>Stock carried forward (a)</b>	<b>Total doses received (b)</b>	<b>Stock on hand (c)</b>	<b>Total doses consumed (a+b-c)</b>
1st July 2006-31st January 2007		1,839,744	832,283	1,007,461
1st February 2006-31st July 2007	698,881	3,084,475	2,179,289	1,604,067
1st August 2007-31st January 2008	2,095,241	1,119,429	1,390,205	1,824,465
<b>Total</b>			<b>4,401,777</b>	<b>4,435,993</b>

**Table 2: Summary of results for grant implementation periods:  
1<sup>st</sup> February 2008 – 31<sup>st</sup> July 2008**

86 District Pharmaceutical facilitators were contacted of these 66 Districts reports were received back by the end of the exercise representing **76%** of the districts facilitated to report. However due to the fact that only 1477 out of 4001 health facilities in reporting districts submitted reports, the health facility reporting rate for the period was **37%**.

The table represents the consumption in doses per weight band, the aggregated adjusted consumption adjusted for stock out days and the total aggregated adjusted consumption.

	<b>Total Consumption Feb- July 2008</b>	<b>Aggregated Adjusted Consumption</b>	<b>Stock on hand at end of reporting period</b>
<b>Artemether-Lumefantrine 5 - 14 KG</b>	618,934	1,335,380	257,041
<b>Artemether-Lumefantrine 15 - 24 KG</b>	559,722	1,214,671	383,181
<b>Artemether-Lumefantrine 25 - 34 KG</b>	350,457	656,912	233,077
<b>Artemether-Lumefantrine 35 + KG</b>	481,273	713,525	234,641
<b>Artemether-Lumefantrine All Age Bands</b>	<b>2,010,386</b>	<b>3,920,487</b>	<b>1,107,940</b>

Table 3 below provides a summary of stock on hand by level of care and AL weight band at the end of the reporting period – July 31<sup>st</sup> 2008

**Table 3: Stock on hand by level of care and weight band summary for February 1<sup>st</sup> –  
July 31<sup>st</sup> 2008**

	<b>Artemether- Lumefantrine 5 - 14 KG</b>	<b>Artemether- Lumefantrine 15 - 24 KG</b>	<b>Artemether- Lumefantrine 25 - 34 KG</b>	<b>Artemether- Lumefantrine 35 + KG</b>	<b>Total Stock on Hand</b>
<b>Level 2 - Dispensary</b>	109,346	175,390	115,810	114,099	514,645
<b>Level 3 - Health Centre</b>	31,638	51,023	32,180	23,580	138,421
<b>Level 4 - Sub district hospital</b>	113,928	142,363	80,183	83,862	420,336
<b>Level 5 - District hospital</b>	2,099	13,322	4,664	10,170	30,255
<b>N/A</b>	30	1,083	240	2,930	4,283
<b>Totals</b>	<b>257,041</b>	<b>383,181</b>	<b>233,077</b>	<b>234,641</b>	<b>1,107,940</b>

### **Conclusion**

The total quantities of AL 35+ kg consumed for the period 1 July 2006 – 31 July 2008 obtained from the facilities were adjusted for reporting rate and submitted to the Global Fund with further adjustments by the DOMC for combining when certain AL weight bands are out of stock.

## **Recommendations**

1. Follow up of AL consumption reports should be continuous, so as to facilitate timely reporting and improve in the reporting rate.
2. District pharmacists should be supported with communication allowance to enable them contact facilities for timely reporting.
3. District facility staff should be trained/retrained on how to complete the AL consumption reports
4. AL consumption tracking tools should be made available to all facilities
5. The office of the Chief Pharmacist should provide an updated contact for the DPFs working in the districts to enable timely communication during such activities
6. Health facility staff should be trained on effective medicine management and its importance to improve reporting rates.

## APPENDIX C

### DIVISION OF MALARIA CONTROL CONCEPT TO ACTIVELY COLLECT AL CONSUMPTION DATA IN PUBLIC HEALTH FACILITIES IN KENYA

#### Background

The Strengthening Pharmaceutical Systems (SPS) program of Management Sciences for Health (MSH) has been providing support to the Division of Malaria Control (DOMC) to scale up effective reporting of consumption of malaria medicines. In FY 2007, the DOMC with RPM Plus support instituted an interim AL consumption tracking system. Over the past year, SPS has been working with the DOMC, KEMSA and Logistics Management Unit (LMU) to incorporate reporting on consumption data for all malaria commodities into an integrated LMIS system at the LMU. The team has revised AL tracking tools to include more data sets, revised the information flow pipeline, developed curricula to train health workers on effective management of malaria medicines and developed an implementation plan for training and system use roll-out. The training for health workers on the current LMIS and tool dissemination is slated for February-March 2009 and is to enable them submit accurate and complete reports to their district pharmaceutical facilitators for aggregation, analysis and use and then onward transmission to LMU for collation and generation of reports for the DOMC. It is expected that from March 2009 data will be available through the LMIS.

As part of the transition from interim AL consumption tracking to LMIS roll-out, MSH/SPS has been supporting a rapid initiative to actively obtain AL consumption data in order to help the DOMC fill its reporting requirements under the GFATM Round 4 malaria grant. Through this short-term SPS funded initiative, the DOMC has managed to move health facility reporting rate from 10-19% to approx 75%.

In February 2009, the DOMC is required to again report to the Global Fund on the indicator # *of adults treated with Artemether-lumefantrine* between August 1st 2008 and January 31st, 2009.

#### Proposal

Using USAID/SPS funds, SPS in collaboration with the DOMC plans to implement one last round of the rapid initiative and to actively collect data from health facilities on AL consumption between August 1st 2008 and January 31st, 2009. Data collected will be analyzed and reported to the Global Fund by February 28th, 2009. This activity is a sub-activity of Activity 5 of the current SPS Malaria FY 08 work-plan.

#### Methodology

The table below summarizes intended sub-activities, responsibilities and timelines that will be implemented to achieve the successful delivery of data to the Global Fund.

Activity	Lead Responsibility	Timeline
Finalization of data collection tools	DOMC	30 <sup>th</sup> January 2009
Cover letter signed by Head of division	DOMC	30 <sup>th</sup> January 2009

Letters out to districts by courier	<b>MSH/SPS</b>	2 <sup>nd</sup> February-4 <sup>th</sup> February 2009
Follow up calls with districts to explain activity, data forms and get commitment on deadlines	<b>DOMC</b>	4 <sup>th</sup> – 6 <sup>th</sup> February 2009
Follow up calls with districts to review progress, enquire about late reports, validate information on forms	<b>Research Assistants (RA)</b>	9 <sup>th</sup> - 20 <sup>th</sup> February 2009
Data entry (analysis is in-built in database)	<b>DOMC/SPS/RA</b>	16 <sup>th</sup> – 23 <sup>rd</sup> February 2009
Report compilation, review	<b>DOMC/SPS/RA</b>	24 <sup>th</sup> February 2009
Submission to GFATM	<b>DOMC</b>	

### **Output**

Timely report to the Global Fund on the number of adults treated with Artemether-lumefantrine between August 1st 2008 and January 31st, 2009.

### **Outcome**

Continued provision of GF funds for future ACT procurement

### **Timeline**

2<sup>nd</sup>-24<sup>th</sup> February 2009





**APPENDIX D**

**REVISION OF ANTIMALARIAL CONSUMPTION TRACKING TOOLS WORKSHOP**

**VENUE: LILIAN TOWERS HOTEL**

**May: 15<sup>TH</sup> – 16<sup>TH</sup> MAY, 2008**

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## APPENDIX E

### EFFECTIVE MANAGEMENT OF ANTIMALARIAL MEDICINES CURRICULUM DEVELOPMENT WORKSHOP VENUE: OUTSPAN HOTEL – NYERI; DATE: 17<sup>TH</sup> JUNE 2008

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## APPENDIX F

Protocol for Field-Testing Antimalarial Medicine Consumption Tools, July 2008

### **Background**

With the rollout of the malaria treatment policy using artemether-lumefantrine in 2006, the Division of Malaria Control (DOMC) recognized the need to track consumption data from health facilities to guide quantification, procurement, and re-supply quantities and schedules. The result was the development of an interim tracking system for artemether-lumefantrine consisting of a central database and health facility reports, including the daily activity register, monthly health facility summary, and district summary tool. The health facilities received the tools without their staff receiving formal training. Facilities were expected to report monthly to the District Pharmacists, who would then compile the reports and send a summary to the DOMC.

One year after implementation, the Drug Management Subcommittee members reviewed the system with representatives from the province, district, and health facilities. The review underscored the need to improve reporting from health facilities and to train health workers on the effective management of antimalarial medicines. The tracking tools were revised, taking into consideration all data elements and indicators required to quantify antimalarials and measure program performance. The review of the tools was to be followed by a pretest before finalization and printing. Once printed, the tools will be disseminated to health facilities complemented by staff training on effective management of antimalarial medicines.

### **Rationale**

The field-testing of the tools will ensure that they are well-suited for use at health facilities; for example, that health facility staff understand them and find them easy to use, and that their national rollout will help the DOMC achieve higher reporting rates and obtain accurate and complete information from health facilities.

### **Objectives of Tool Pretest**

Carry out the field-testing of the tools

Finalize and print the tools for health facilities to report antimalarial consumption data

### **Outputs**

12 District Health Management Team members trained on the tools

Field-tested and finalized daily activity register, health facility monthly summary, and district monthly reporting tool

### **Method of work**

MSH will develop a field-testing protocol and an interview schedule for use during the pretest. The redesigned AL consumption tracking tools will be field-tested in the following districts: Bureti, Garrissa, Kilindini, Makueni, Nairobi, and Suba.

Twelve district health management team members representing the district medical officers of health and DPFs from each of the six selected districts will be trained on the revised draft AL consumption tracking tools and conduct of a one-day health workers' training in the districts. Once trained, the health workers will pretest the daily AL register tool for 14 days and compile a health summary report for the period. Sixty health facilities (10 per district) are targeted for the field-testing.

The health facilities targeted for the pretest per district will consist of the following—

- One district hospital
- One subdistrict hospital
- Two health centers
- Six dispensaries

The criteria to select health facilities will be the following—

- Close proximity to the main district headquarters to facilitate easier communication with the District Health Management Teams
- High workload, so as to obtain as much data as possible in the two weeks of pretesting
- In-charges that are cooperative and committed to the pretesting activity

Once health facilities forward their reports to the district pharmacist, he or she will compile the district monthly summary report.

Following the pretest, six interviewers will be recruited and oriented to carry out a one-day field visit of at least two of the facilities where the pre-test was conducted. They will also conduct focus group discussions with health workers involved in filling the redesigned draft tools, interview the DPF, collect the completed pre-test tools and questionnaires, and return them to the DOMC. After the field visits, the six interviewers will attend a one-day debrief workshop at MSH offices, where they will review the completed tools from all 60 facilities that participated in the pretest. They will also discuss the information they collected during the field visits, including the results of the focus group discussions, and consider how to incorporate the results into the final tools.

Following tool finalization, the data entry screen at the Logistics Management Unit will be also adjusted to incorporate the changes and the final tools printed for dissemination during the national training on effective management of malaria medicines.

**Work schedule and budget**

<b>No.</b>	<b>Activity</b>	<b>Timeline</b>	<b>Expected Output</b>	<b>Responsibility</b>	<b>Bu</b>
1.	Produce and agree on field-testing protocol	8 July 2008	Field-testing protocol	DOMC/MSH	No
2.	Produce first draft of reporting tools and interview schedule for pretesting	10 July 2008	Interview Schedule	DOMC/MSH	No
3.	DPF briefing workshop	14 July 2008	Workshop report and district work plans	DOMC/MSH	27
4.	District meetings with health facility in-charges	14 July 2008	Minutes of the district meetings	District Pharmaceutical Facilitators	22
5.	Field testing	17–31 July 2008	Pre tested tools in all health facilities in selected districts	Health facility staff in all 6 districts	14
6.	Meeting to brief interviewers	28 July 2008	Workshop proceedings	DOMC/MSH	
7.	Focus group discussion at district level with health facilities	5-7 August 2008	Focus group discussion report	Interviewers, DPF and district staff	25
8.	Compilation of report and adjustment of tools as per field test results	13 August 2008	Finalized tools with inputs from field testing	DOMC/MSH	No

## APPENDIX G

### PARTICIPANTS' REGISTRATION LIST

#### TRAINING ON THE PRETEST OF MALARIA MEDICINES CONSUMPTION TRACKING TOOLS

DATE: 14 JULY 2008

VENUE: THE FAIRVIEW HOTEL NAIROBI

NO.	NAME	GENDER	POSITION	FACILITY	ADDRESS	TELEPHONE	EMAIL ADDRESS
1.	Andrew Mwaura	M	Programme Officer	DOMC	14595 00100	0728 774482	<a href="mailto:amwaura@domckkenya.or.ke">amwaura@domckkenya.or.ke</a>
2.	Dr. Athman Mwanaisha	F	Pharmacist	Kilindini	90502	0722 905024	<a href="mailto:Ashaath2@yahoo.com">Ashaath2@yahoo.com</a>
3.	Dr. Salma Swaleh	F	District Medical Officer of Health	Kilindini	90502	0722 343590	<a href="mailto:Moh.kilindini@yahoo.com">Moh.kilindini@yahoo.com</a>
4.	Dr. Ego Agere	M	District Medical Officer of Health	Bureti	95 Kapsabet	0733 734137	<a href="mailto:egoonya@yahoo.com">egoonya@yahoo.com</a>
5.	Dr. Christine Otieno	F	District Pharmacist	Suba	25 Suba	0722 935609	<a href="mailto:otienotine@yahoo.com">otienotine@yahoo.com</a>
6.	Dr. Charles Mulwa	M	District Pharmacist	Makueni	95 – 90300 Makueni	0720 349153	<a href="mailto:lesmulwa@yahoo.com">lesmulwa@yahoo.com</a>
7.	Maureen Muranda	F	District Health Records Information Officer	Makueni	95-90300 Makueni	0735 770803	<a href="mailto:maureenmuganda@yahoo.co.uk">maureenmuganda@yahoo.co.uk</a>
8.	Anthony N. Njuguna	M	District Health Records Information Officer	Garissa	256 Garissa	0721 302811	<a href="mailto:anthonynyaganjuguna@yahoo.com">anthonynyaganjuguna@yahoo.com</a>
9.	Dr. Onyango Oduor	M	Pharmacist	PMO-Gsa	40954	0726 589826	<a href="mailto:Ppharm-nep@health.go.ke">Ppharm-nep@health.go.ke</a>
10.	Dr. David Soti	M	District Medical Officer of Health	Suba	50 Mbita	0724 830143	<a href="mailto:dmohsuba@yahoo.com">dmohsuba@yahoo.com</a>
11.	Dr. F.O.Ngere	M	Pharmacist	Bureti	95 Kapkatet	0720 460933	<a href="mailto:fredngere@yahoo.com">fredngere@yahoo.com</a>
12.	Dr. Gladys Tetteh	F	Regional Malaria Advisor	MSH/SPS	8000 – 00100 GPO, Nairobi	0721 738796	<a href="mailto:gtetteh@msh.org">gtetteh@msh.org</a>

NO.	NAME	GENDER	POSITION	FACILITY	ADDRESS	TELEPHONE	EMAIL ADDRESS
13	Dr. Newton Angw'a	M	Pharmacist	PMO, Nairobi	04349 00100 GPO Nairobi	0722 357932	<a href="mailto:newtonangwa@yahoo.com">newtonangwa@yahoo.com</a>
14	Agnes Mukiri	F	Rapporteur	MSH/SPS	8700 00100 GPO Nairobi	0724 814180	<a href="mailto:mukiri.agnes@yahoo.com">mukiri.agnes@yahoo.com</a>
15	Viola Chepkorir	F	Admin/Support	MSH/SPS	8700 00100 GPO Nairobi	0724 438246	<a href="mailto:cuick287@yahoo.com">cuick287@yahoo.com</a>
16	Dr. Dorothy Memusi	F	Focal Point Person-Case Management	DOMC	19982, Nairobi	0733 428281	<a href="mailto:dnaisiae@domckkenya.or.ke">dnaisiae@domckkenya.or.ke</a>
17	Dr. Mildred Shieshia	F	Senior Program Associate	MSH/SPS	8700 00100 GPO Nairobi	0725 855762	<a href="mailto:mshieshia@msh-kenya.org">mshieshia@msh-kenya.org</a>

## APPENDIX H

### PRETEST OF MALARIA PRETESTING TOOLS (HEALTH FACILITY)

Please answer the following questions related to the malaria consumption tracking tools.

Are the instructions for use clear and easy to follow?

Were there any errors on the tool?

Yes

If yes, please describe the errors

---

---

How much time on average did it take to fill the:

AL dispenser's book for a patient

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Health facility monthly summary sheet

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List challenges faced in filing the:

AL dispenser's book

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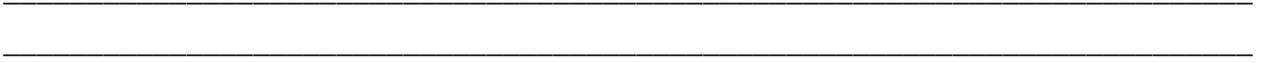
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Health facility monthly summary sheet

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Recommendations



## APPENDIX I

### PRETEST OF MALARIA PRETESTING TOOLS (DISTRICT SUMMARY)

Please answer the following questions related to the malaria consumption tools.

Are the instructions for use clear and easy to follow?

Were there any errors on the tool?

Yes

If yes, please describe the errors

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---

What percentage of facilities reported by the deadline?

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How much time on average did it take you to fill the aggregated tool?

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List challenges faced in:

Receiving health facility summary sheets from the facilities

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Filling in the aggregated tool

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Recommendations:

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## APPENDIX J

### Example of Artemether-Lumefantrine Dispenser's Book

Page number					Artemether-Lumefantrine BLISTERS								
<b>Republic of Kenya – Ministry of Health</b>					AL 6's	AL 12's	AL 18's	AL 24's					
<b>Artemether-Lumefantrine Dispenser's Book</b>													
The total quantities of drugs dispensed are counted <b>per page</b> .													
<b>Balance previous page</b> →					8	0	60	3	A				
<b>Receipt Date</b>		07/06/2008		<b>Quantities Received from Store</b>					0	60	60	0	B
<b>Reference Number</b>		S12 832343											
<b>Total Stock Available</b>					8	60	120	3	C				
Date	IP / OP Number	Weight Category (Tick)				Quantities Dispensed							
		5-14	15-24	25-34	35+								
07/06/2008	OP 12349				√				1				
07/06/2008	OP 12365		√			1							
07/06/2008	OP 12379	√				1							
07/06/2008	OP 12382			√				1					
07/06/2008	OP 12384	√	D			1	E						
07/06/2008	OP 12392				√				1				
-----													
08/06/2008	IP 10/392	√				1							
08/06/2008	OP 13245	√				1							
08/06/2008	IP 10/394	√				1							
08/06/2008	OP 13382			√				1					
08/06/2008	OP 13364				√				1				
08/06/2008	OP 13925			√				1					
08/06/2008	OP 13926		√				1						
08/06/2008	OP 13927		√				1						
-----													
09/06/2008	OP 14333	√				1							
09/06/2008	OP 14447		√				1						
09/06/2008	OP 14449	√				1							
09/06/2008	OP 14450				√		2						
09/06/2008	OP 14500				√	1		1					
09/06/2008	OP 14511				√		2						
09/06/2008	OP 14513	√					0.5.						
09/06/2008	OP 14516		√				1						
09/06/2008	OP 14517			√				1					
09/06/2008	OP 14520	√						0.33.					
09/06/2008	OP 14522		√				1						
<b>Total</b>		9	6	H <sub>4</sub>	6	8	10.5	5.33	3	F			
<b>Balance end of this page</b> (Total stock available less quantity issued )					0	49.5	114.7	0	G				

## Artemether-Lumefantrine Dispenser's Book Instructions for Use

### Purpose of filling out the AL Dispenser Book

- To record the name and quantity of artemether-lumefantrine (AL) dispensed each day (needed to monitor medicine consumption and help detect inappropriate use)
- To calculate consumption of each medicine over a chosen period (for estimating order requirements)
- To compare AL records with actual stock on hand (stock control cards or bin cards versus physical inventory checks) to identify discrepancies between medicines issued from stores and those actually dispensed.

NOTE: See **Sample filled in AL sheet** for the areas labeled below, (e.g., **A**).

### Entering AL records

1. On a new page, go to the row *Balance from Previous Page* and enter the closing balance/ stock balance brought forward for the various AL blisters from the *Balance end of this page* row on the previously filled page. **(A)**
2. If new stock is received from the drug store, record the following information for each drug receipt:
  - a) *Receipt Date* = date drugs received from the stores
  - b) *Reference Number* = the reference number of the receipt of drugs, (e.g., the S12 number)
  - c) *Quantities Received from Store* = the quantity received (of blisters) for each category of artemether-lumefantrine. **(B)**
  - d) Add the received amount to the *Balance from Previous Page* figure to get the *Total Stock Available*. **(C)**
3. Record the following information for each patient:
  - a) *Date*  
= date of the patient's visit/date of dispensing
  - b) *IP /*  
*OP Number* = Inpatient or outpatient number that references the inpatient or outpatient registers
  - c) *Weigh*  
*t Category* where the patient falls (e.g., 5-14 kg, 15-24 kg, 25-34 kg or 35+ kg). Indicate using a tick. **(D)**
  - d) *Quanti*  
*ty Dispensed* (in blisters) to the patient. Put this figure in the correct column for the dose (e.g. 1, 0.25 [for ¼ blister], 0.5 [for ½ blister]). **(E)**
4. **Start each new month on a new page.**

### Calculating totals for patient on AL by weight band summary

Calculate these when you reach the bottom of the page (not on a daily basis).

For each patient, there should be a tick against the appropriate weight band/category.

1. Run down each weight category column and carefully add the ticks.
2. Insert the total for each weight band in the boxes provided in the *Total* row at the bottom of the page. **(H)**

### Calculating total quantity dispensed

Calculate these when you reach the bottom of the page (not on a daily basis):

1. Run down each dose column and carefully add up the quantity of blisters dispensed. **(E)**

2. Insert the total quantity of blisters dispensed for each dose in the *Total* row at the bottom of the page. **(F)**
3. Calculate the closing balance for each AL dose at the end of the page by subtracting the *Total* of the quantities dispensed **(F)** from the *Total Stock Available* **(C)** as below.

$$\text{Balance End of this Page (G)} = \text{Total Stock Available (C)} - \text{Total Quantity Dispensed (F)}$$

Enter this figure into the row *Balance end of this page* for each AL type. **(G)**

Note: This is also the stock balance carried forward to the next page.

4. Copy the figure from *Balance end of this Page* into the *Balance from Previous Page* boxes at the top of the next page (i.e., the new stock balance brought forward for that page). **(A)**

**At the end of the month:**

For a health facility with multiple dispensing points, the pharmacist in-charge/health facility in-charge should obtain all the AL Dispenser's Books in all dispensing points and bin cards from the store and compile one health facility summary by summing up all the information on stock dispensed, quantity consumed, stock on hand, losses and adjustments, etc.

## Example of Health Facility Monthly Summary Report for Antimalarial Medicines

MINISTRY OF HEALTH												
HEALTH FACILITY MONTHLY SUMMARY REPORT FOR ANTI-MALARIA MEDICINES												
Province: _____				District: _____								
Facility Name: _____												
Facility Type:		Level 2 <input type="radio"/>		Level 3 <input type="radio"/>		Level 4 <input type="radio"/>		Level 5 <input type="radio"/>		Level 6 <input type="radio"/>		
Period of Reporting: Beginning: _____						Ending: _____						
(Day/Month/Year)						(Day/Month/Year)						
Drug name	Basic Units	Beginning Balance	Quantity Received this period	Total Quantity dispensed	Losses (excluding expiries)	Positive Adjustments	Negative Adjustments	Physical Count	Quantity of expired drugs	Medicines with six months to expiry	Days out of stock	Adjusted Consumption (to be filled by DPF)
		A	B	C	D	E	F	G	H	I	J	C x (Period covered (days) / Days in Stock)
Antimalaria Drugs												
Artemether-Lumefantrine 20/120 Tabs	6s											
Artemether-Lumefantrine 20/120 Tabs	12s											
Artemether-Lumefantrine 20/120 Tabs	18s											
Artemether-Lumefantrine 20/120 Tabs	24s											
Quinine Tabs (200mg)	'Tins of 000s"											
Quinine Tabs (300mg)	'Tins of 000s"											
Quinine inj (600mg/2ml)	Amps											
Sulphadoxine Pyrimethamine	Tabs											
Patients on AL by Weight Band Summary Report												
5 -14 kgs		15 -24 kgs		25 -34 kgs		35+ kgs						
Comments (including explanations of losses and adjustments):												
Report Prepared by: _____				Signature _____				Designation _____				
Name of Reporting officer												
Contact Telephone: _____				Date: _____								
Report reviewed by: _____				Signature _____								
District Pharmaceutical facilitator												
Contact Telephone: _____				Date: _____								
<i>To be Submitted to the District Pharmaceutical Facilitator by the 5th Day of every month</i>												

## Completing the Health Facility Monthly Summary Report for Antimalarial Medicines

The staff in charge of malaria medicines or other person designated by the health facility in-charge fills out this summary report.

Province: Write the name of the province where the health facility is located.

District: Write the name of the district where the health facility is located.

Facility Name: Write the name of the health facility where the patients are being treated with malaria medicines.

Facility Type: Tick the circle that indicates the type of the health facility where the patients are being treated with malaria medicines as follows:

- Level 2—Dispensary
- Level 3—Health Centre
- Level 4—Subdistrict Hospital/District Hospital
- Level 5—Provincial Hospital
- Level 6—Teaching and Referral Hospital

Period of Reporting: Write the day, month, and year (in format dd-mm-yyyy) for which the report is being prepared (indicating both the beginning date and the ending date). The reporting period is the most recent full calendar month (from first day of the month to last day of the month in which the information is being reported).

Example:

Beginning: 01/01/2008

## Completing the consumption data section

Before commencing the exercise, obtain ALL copies of the AL Dispenser's Book and bin cards from ALL dispensing points in the health facility.

Drug Name/Basic Unit: The malaria medicine name and its basic unit are preprinted on the report. Basic units: blisters for artemether-lumefantrine, tins of 1000s for quinine 200mg and 300mg, ampoules for quinine injection, and tins of 1000s for sulphadoxine-pyrimethamine (SP).

Note: Each blister size of artemether-lumefantrine (6s, 12s, 18s, and 24s) is included. If there is a medicine that is not included (including different blister size, strength, and/or dosage form) in the preprinted names, then write the name, strength, and basic unit in the extra blank rows provided.

Beginning Balance (A): Enter the total quantity in basic units of each usable malaria medicine on hand in the facility on the last day of the previous reporting period. **The *beginning balance (A)* is equal to the *physical count (G)* of the previous reporting period.**

Quantity Received this Period (B): Enter the quantity (in basic units) of each malaria medicine received from the supplier (e.g., KEMSA) within the reporting period. If the facility received none of the medicine during the reporting period, enter a zero ("0") in this column. Find the quantities of each malaria medicine received by the facility in the *quantity received* column of

the bin card/stock control card. **Do NOT include quantities issued from the bulk/drug store to the hospital pharmacy dispensing area.**

**Total Quantity Dispensed (C):** Record the total quantity (in basic units) of each malaria medicine dispensed to the patients within the reporting period. If none of the medicine was dispensed to patients during the reporting period, enter "0" in the *total quantity dispensed* column for that medicine.

The total quantities of each **artemether-lumefantrine** blister size dispensed to patients are recorded in the *total* row of the *quantity dispensed* column of the Artemether-Lumefantrine Dispenser's Book. Be sure to write the total quantities that were dispensed to patients. Do **NOT** write the quantities that were issued to the dispensing area from the bulk or drug store. If several pages of the AL Dispenser's Book have been used over the month, be sure to add the figures in the *Total* row of the *Quantity Dispensed* columns across all the pages used that month for each AL blister size.

For **quinine** 200mg tablets, 300mg tablets and **quinine injection**, calculate the total quantity dispensed to patients during the reporting month. Record this number in the *total quantity dispensed* column in this summary report. **(C)**

For **sulphadoxine-pyrimethamine** for intermittent preventive therapy (IPT) in pregnancy, go to the Antenatal Care Register and count the total number of clients given IPT (IPT1 and IPT2) during the reporting month. Multiply this number by three to calculate the total quantity of tablets dispensed during the reporting month. Record this number in the *total quantity dispensed* column in this summary report. **(C)**

**Losses (D):** Enter the quantity of any loss in the stock of malaria medicines at the health facility. Losses include quantities of missing drugs or defective and damaged drugs that should be removed from stock.

Note: Write the reason for the loss in the *Comments* section. Any missing or lost drug unaccounted for should be documented and investigated for suspected theft according to the government's policy. The quantities lost at the health facility are found in the bin card/stock control card kept by the facility's drug or bulk store for each malaria medicine.

Losses should not include expiries because these are recorded separately on the sheet.

**Positive Adjustments (E):** Enter the quantity of any positive adjustment (addition) to the stock balance of the malaria medicine. Write the reason for the adjustment in the *Comments* section. Record adjustments in the bin card/stock control card when they occur. A positive adjustment is a change in stock balance for any reason other than quantities issued to the dispensing areas (e.g., pharmacy) for dispensing to patients.

Examples of positive adjustments include additional quantities counted at stock-taking and drugs received in a transfer from another health facility (other than KEMSA).

**Negative Adjustments (F):** Record and explain negative adjustments (subtractions) on the summary form. Examples of negative adjustments include discrepancies in quantities counted at stock-taking, transfer of drugs to another health facility, or quantities used for training purposes.

**Physical Count (G):** Enter the total quantity of usable malaria medicines physically counted in the health facility. This should be done at the close of business on the last day of the month's reporting period.

Note: Comparing the *physical count* for each drug to the calculated ending balance for the reporting period (as below) should identify any discrepancies. Obtain the ending balance using the calculation:  $A + B - C - D + E - F$ . The result of the calculation should equal the *physical count* (G).

Record the *physical count* and report any discrepancies between the physical count and expected ending balance from the calculation as *Adjustments* (positive or negative: E or F). Write the reason for the adjustments in the *Comments* section.

Quantity of expired drugs (H): During the physical count, note and record what quantity of each malaria medicine is expired.

Quantity of drugs with six months to expiry (I): During the physical stock count, record the quantities of drugs that have six months or less to expiry.

Days out of stock (J): Enter the total number of days that the health facility was stocked out of any malaria medicine during the reporting month. Obtain this information from the facility bin cards/stock control cards.

Adjusted Consumption: ***THIS COLUMN IS FILLED IN BY THE DISTRICT PHARMACEUTICAL FACILITATOR (DPF) ONLY.***

### **Completing the Patient Summary section**

Patients on AL by Weight Band Summary Report: Record the total number of patients by weight that received artemether-lumefantrine at the health facility during the specified reporting month. Each weight band, 5-14 kg, 15-24 kg, 25-34 kg, 35+ kg, has a separate box for data entry. The total number of patients for each weight band is found in the *total* row labeled "H" at the bottom of each page in the Artemether-Lumefantrine Dispenser's Book. Please add up the page totals across all pages filled in during the specified reporting month for each weight band.

Comments: Use this space to provide any explanations or details on *Losses* or *Adjustments* or any other issues, such as an expected increase in the number of patients requiring malaria medicines at the facility. Examples of *Losses* include damaged stock, drugs returned by patient, drugs used in training, and wastage. If more than one loss or adjustment to the stock balance occurred in the period, enter the corresponding reasons for each type of loss or adjustment.

Report prepared by: The person(s) responsible for preparing this report should write his or her full name, designation, contact telephone, and date of signing, and then sign.

Report reviewed by: After reviewing the report, the District Pharmacist should write his or her full name, the date of signing, and then sign. This confirms that the report has been reviewed and is valid.

## Example of District Malaria Aggregation Tool Screen Shot

MINISTRY OF PUBLIC HEALTH AND SANITATION & MINISTRY OF MEDICAL SERVICES													
DISTRICT SUMMARY FOR MALARIA MEDICINES													
<i>Aggregation Tool</i>													
Province:													
District:													
Period of Reporting:		Month:				Days Covered: _____							
Drug Name and Aggregated Values	Facility Name												
	Level												
	Totals												
Arthemether - Lumefantine 20/120 6s	Total Dispensed												
	Days Out of Stock												
	Adjusted Consumption												
	Stock on Hand												
	Losses												
	QTY Expired												
	Expired Stock Y/N												
Arthemether - Lumefantine 20/120 12s	Total Dispensed												
	Days Out of Stock												
	Adjusted Consumption												
	Stock on Hand												
	Losses												
	QTY Expired												
	Expired Stock Y/N												
Arthemether - Lumefantine 20/120 18s	Total Dispensed												
	Days Out of Stock												
	Adjusted Consumption												
	Stock on Hand												
	Losses												
	QTY Expired												
	Expired Stock Y/N												

Page 1





## Completing the Electronic District Monthly Aggregation Tool and Electronic District Monthly Summary Report for Antimalarial Medicines

### About the District Monthly Summary for Malaria Medicines and Aggregation Tool

The Aggregation Tool (Appendix G) consists of a set of monthly summary sheets in an Excel database, which the district uses to update its information on malaria medicines each month. Before filling in the Aggregation Tool, please be sure that the month you pick is indeed the month for which you are reporting.

Once filled in, the District Aggregation Tool automatically generates the District Summary Monthly Report for Malaria Medicines (Appendix H).

Please note that all the information contained in the Health Facility Monthly Summary Report is not captured in the District Monthly Summary Report for Antimalarial Medicines, primarily because the extra information is for you to use and act on at your level.

### How to fill out the Electronic District Monthly Aggregation Tool

1. Click on the relevant worksheet for the reporting month.
2. On the sheet, fill in the *province* and *district* for which you are reporting.
3. Indicate in the space provided the reporting *month*. The form automatically generates the *days covered*, and you needn't fill in this section.
4. In the space provided, fill in the health facility name and indicate the level of health care for the specified facility as follows:
  - Level 2—Dispensary
  - Level 3—Health Centre
  - Level 4—Subdistrict Hospital/District Hospital
  - Level 5—Provincial Hospital
  - Level 6—Teaching and Referral Hospital
5. For each discrete artemether-lumefantrine blister size, fill in *Total Dispensed*, *Days Out of Stock*, *Stock On Hand*, *Losses*, and *Quantity Expired*. The field for *Adjusted Consumption* is automatically generated and you need not fill it in. For *expired stock* put a (Y)es or (N)o for each individual facility and drug.
6. Fill in the aggregated patients on artemether-lumefantrine per weight band.
7. Fill in the *total quantity dispensed*, *days out of stock*, *stock on hand*, *losses*, *expired quantities* for quinine and sulphadoxine-pyrimethamine.
8. The *Totals* column right below the title *Facility Name* and facility *Level* should not be filled in because all totals will automatically be generated on the district monthly summary sheet.

Remember to check that your health facility has adequate stock by comparing *stock on hand* with *adjusted consumption*. If *stock on hand* is less than *adjusted consumption*, the health facility is likely to run out of stock. Take urgent action, such as borrowing from other health facilities, to replenish the health facility with enough stock to last at least until receiving another supply from the central medical stores, be it KEMSA or MEDS.

Compare the quantity of stock for each product that is *six months to expiry* with the *monthly consumption*. Column I on the Health Facility Summary Report (Appendix F) has the information on expiry. If the expiry figure is much higher than the consumption figure, transfer the stock that is close to expiry to a busier health facility with a higher workload, so that it is used before expiring.

## How to fill out the Electronic District Monthly Summary report

The district summary monthly tool screen report (Appendix H) is self-generated and enables you to view the district summary for the month for which you are reporting.

- The total number of health facilities that actually reported for each level of health care is automatically generated on the district electronic monthly summary from the district aggregation tool. The number of *Reporting Facilities* that were *Expected* to report is should equal the total number of health facilities in a district. The Ministry Of Public Health and Sanitation and District Medical Officer of Health for each district are the custodians of the names and number of public health facilities in the district. The overall reporting rate is automatically calculated based on the *Expected* and *Reporting* facilities.
- Finalize the report by filling in your *Name, Designation, Date of Compilation, Contact Telephone, and E-Mail* address.
- Send the report via e-mail to [malaria@lmu.co.ke](mailto:malaria@lmu.co.ke).

## Completing the Manual District Monthly Aggregation Tool and Manual District Monthly Summary Report for Antimalarial Medicines

### About the District Monthly Summary for Malaria Medicines

This report should be generated by filling in the manual version of the District Monthly Aggregation Tool for Malaria Medicines.

This consists of a paper-based set of monthly summary sheets, which the district uses to update its information on malaria medicines each month. The sheets look like the electronic screen shots from Appendices G and H. Before filling in the Aggregation Tool, please be sure that you fill in the month for which you are reporting.

Once filled in, use the Manual District Monthly Aggregation Tool to generate the District Summary Monthly Report.

### How to fill in the Manual District Monthly Aggregation Tool

1. Before filling out the Aggregation Tool, you need to calculate the *Adjusted consumption* using the Health Facility Monthly Summary Report (Appendix F).
2. For each individual Health Facility Monthly Summary Report (Appendix F) run down the different medicines and fill in the *Adjusted consumption* for each by using the following formula:
  - a. 
$$\text{Days when the item was in stock} = (\text{total days in the month} - \text{total days out of stock})$$
  - b. 
$$\text{Adjusted consumption} = \text{Total Quantity Dispensed (C)} \times (\text{days in the month} / \text{days when the item was in stock})$$
3. In the Manual District Monthly Aggregation Tool, fill in the *Province* and *District* for which you are reporting.
4. Indicate in the space provided the reporting month. Fill in the number of days covered in the space provided.
5. Fill in all the health facility names for the facilities reporting and indicate the level of health care for the specified facility as follows:
  - Level 2—Dispensary
  - Level 3—Health Centre
  - Level 4—Subdistrict Hospital/District Hospital
  - Level 5—Provincial Hospital
  - Level 6—Teaching and Referral Hospital
6. Under each health facility and for each discrete AL weight-specific blister, fill in *total dispensed*, *days out of stock*, fill the *calculated adjusted consumption* (calculated in step 1.b above), *stock on hand*, *losses*, *quantity expired*, and indicate whether or not the health facility had expired stock for a particular product (Y/N).
7. Fill in the aggregated patients on artemether-lumefantrine per weight band.
8. Sum up, for all facilities reporting data by product for *total dispensed*, *days out of stock*, fill the calculated *adjusted consumption*, *stock on hand*, *losses*, *quantity expired*, and fill in the values obtained in the *Totals* column right below the title *facility name* and *facility type*.
9. These health facility totals right below the title *facility name* and *facility type* are overall totals for the *reporting* health facilities in the whole district and will be transferred to the Manual District Monthly Summary report.

## How to fill out the Manual District Monthly Summary Report

1. Turn to the district monthly summary section.
2. Fill in the *Province* and *District* for which you are reporting.
3. Indicate in the space provided the reporting *Month*.
4. For each malaria medicine, transfer the *Totals* for all the health facilities in the whole district from the Manual District Monthly Aggregation Tool to the appropriate fields in Manual District Monthly Summary Report (Appendix H): *Aggregated Adjusted Consumption (A)*, *Aggregated Stock on Hand (B)*, *Aggregated Losses (C)*, and *Aggregated Expiries/Total Quantity*. Also fill in the *Number of Health Facilities* that reported an expiry.
5. Indicate the *Total Number of Health Facilities That Reported a Stock out of MORE Than Seven Days* in column D.
6. At the bottom of the table, indicate the total number of patients on AL per weight band.
7. Indicate the number of health facilities that have reported versus the number that were expected to report and calculate the overall reporting rate as (number of health facilities that have reported/number that were expected to report) x 100.
8. Use the *Comments* section to explain the figures you have indicated on the report or as needing any urgent intervention.
9. Finalize the report by filling in your *name, designation, date of compilation, contact telephone, and e-mail* address.
10. Sign the report and hand it over to the District Medical Officer of Health for review and signature.
11. Once duly filled, send the report to LMU/KEMSA. Account No.0100TJ002.

Remember to check—

- That your health facility has adequate stock by comparing *stock on hand* with *adjusted consumption*. If *stock on hand* is less than *adjusted consumption*, the health facility is likely to run out of stock. Take urgent action, such as borrowing from other health facilities, to replenish the health facility with enough stock to last at least until receiving another supply from the central medical stores, be it KEMSA or MEDS.
- Compare the quantity of stock for each product that is *six months to expiry* (from Column I in Health Facility Summary Report) with the *monthly consumption*. If the expiry figure is much higher than the consumption figure, transfer the stock that is close to expiry to a busier health facility with a higher workload, so that it is used before expiring.

## **APPENDIX K**

### **TERMS OF REFERENCE - PHARMACIST**

1. Provide technical assistance to the DOMC LMU. Using the logistics data from the LMIS produce quantities for distribution.
2. Track and document all malaria commodity procurements by KEMSA and Donors
3. Commodity quality control in conjunction with KEMSA
4. Commodity quantification, forecasting and procurement in collaboration with DOMC and other Policy makers
5. Capacity building
6. Work collaboratively with the M&E officer to develop & evaluate LMIS feedback system from central level to the periphery
7. Data quality support

### **TERMS OF REFERENCE - MONITORING AND EVALUATION OFFICER**

1. Coordinate data collection, reporting and analysis efforts and provide ongoing support to the Division of Malaria Control
2. Conduct statistical evaluation, analyze and report on collected quantitative and qualitative data
3. Coordinate and manage local evaluation projects
4. Work in-collaboration with the Malaria logistic management team to evaluate, develop and/or modify data collecting tools based on program objectives and client needs
5. LMIS Management - Ensure availability of the relevant LMIS tools at all levels
  - a. LMIS M&E; Track and follow up non-reporting
  - b. Follow up late reporting
6. Work collaboratively with the DOMC LMIS team to develop LMIS feedback system
7. Work with the Pharmacist to develop and design program and Donor specific reports on commodity consumption and stock status.
8. Work collaboratively with the DOMC M & E personnel to plan and carry out M&E and supervision activities.

## **TERMS OF REFERENCE – DATA ENTRY CLERKS**

1. Receive the antimalarial logistic reports from the DPF
2. Enter the reports into the logistic software
3. Data validation
4. Assist in Ad-hoc LMIS Reports generation



## APPENDIX L





**THE GOVERNMENT OF KENYA  
MINISTRY OF PUBLIC HEALTH AND  
SANITATION**

**PROPOSAL FOR THE TRAINING OF  
HEALTH WORKERS ON THE  
EFFECTIVE MANAGEMENT OF  
MALARIA MEDICINES**

## **Background**

In 2006, The DOMC implemented the ACT policy with Artemether Lumefantrine (AL). The medicines were procured and distributed to all mission and public health facilities in the country. To ensure the smooth implementation of the policy a total of 9,000 health workers were trained on malaria case management. The training of these first line health workers focused on the classification, diagnosis and management of malaria including a pharmacology section dealing with dosages of drugs to administer, their side effects and contraindications. The training however did not equip health workers with skills in the effective management of malaria medicines. The result of this omission was that health workers were not able to effectively manage the antimalarial medicines.

The introduction of the new policy was followed by the printing of tools to track the consumption of AL, in order to guide quantification and also to evaluate the effectiveness of the program. The review of the performance of the health workers in reporting on the consumption of malaria medicines revealed the following;

1. Many health facility staff were not able to fill the reporting tools and the reporting rate for the AL consumption tracking tools fluctuated between 10% and 57%
2. Health facilities in some regions experienced stock outs of AL and other malaria medicines while in other regions, there were expiries.
3. The district pharmacists seldom visited health facilities to conduct support supervision. They were ill equipped to make an impression of their health facilities with regard to supply chain for malaria medicines.

## **Rationale**

There is need to train health workers and to equip them with skills that will enable them manage malaria medicines effectively. Without adequate training, it is not possible for the health workers to;

1. Effectively manage malaria medicines to avert stock outs and expiries.
2. Adequately and accurately provide reports on consumption, stock on hand and other indicators that will guide quantification and other drug management activities.

## **Broad objectives**

The objective of this training is to equip health workers with skills to enable them manage malaria medicines effectively; ensure patients get medicines in adequate quantities when they need them; and provide monthly accurate, complete and timely report on consumption.

## **Specific Objectives**

1. Print training manuals consisting of
  - a. 1,000 copies of the trainers manual
  - b. 5,000 copies of the participants manual
2. Train 149 district pharmaceutical facilitators as TOTs, one from each district in the country.
3. Train 5,000 health workers on the Effective Management of Malaria Medicines

## **Methodology**

The National trainers for the training will be drawn from the Drug Management subcommittee which consists of members from DOMC, PPB, KEMSA, MEDS and JSI/PSCMS. A total of 149 DPFs, one drawn from each districts in the country will be trained as a TOT. Four, 2day TOT trainings consisting of 38 DPFs per training will be held.

Once trained, the TOTs will roll out the training country wide to 5000 health workers drawn from public and mission health facilities. Each TOT will be responsible for training 1 health worker per facility in his/ her district. The health workers targeted for the training are those involved in management of malaria medicines. They will include nurses, clinical officers, pharmacists, store keepers and health records information officers. Following the training, all health workers will be required to update other health workers within their health facilities as part of their Continuous Medical Education sessions. This will ensure sustainability in training a critical mass of health workers to ensure that malaria medicines are indeed managed effectively.

The training will focus on quantification, ordering, receipt, record keeping, and filling of consumption reports for malaria medicines and submission of report to higher levels. The Curriculum and Implementation guide for effective management of malaria medicines will be used for the training. The training of health workers will be done simultaneously with the dissemination of the malaria medicines consumption tracking tools.

Supervision of the trainings will be carried out by DOMC in collaboration with MSH/SPS.

After the conclusion of the training, health workers will be followed up to ensure that they indeed apply the principles for the Effective Management of Malaria Medicines. The follow up support supervision will be as follows;

1. From the National level- Biannually to selected regions
2. From the provinces – Quarterly
3. From districts – monthly

### **Training schedule for DPFs and Time lines**

<b>Province</b>	<b>No. of districts</b>	<b>No of DPFs</b>	<b>Training dates</b>
Nairobi& Central provinces	14	14	16 -17 Feb 2009
Coast	13	13	16 -17 Feb 2009
North Eastern	11	11	16 -17 Feb 2009
Eastern	28	28	19-20 Feb 2009
North Rift	25	25	19-20/ 23-24 Feb 2009
south rift	18	18	23-24 Feb 2009
Western	19	19	26-27 Feb 2009
Nyanza	21	21	19-21 Feb 2009

**Budget for training 149 DPFs**

<b>Item</b>	<b>Unit cost</b>	<b>No of units</b>	<b>No of days</b>	<b>Total Cost</b>
Half board accommodation	4000	157	3	1,884,000
Facilitation allowance	2000	4	8	64,000
MIE for participants	1500	157	2	471,000
Stationery	500	157	1	78,500
Communication	3000	4	4	48,000
Transport refund	3000	157	1	471,000
Conference facilities	5000	4	2	40,000
Out of Pocket	500	4		-
Postage and courier	200	157	1	31,400
<b>Total Cost</b>				<b>3,087,900</b>

**Average cost per training of 40 health facility workers**

<b>Item</b>	<b>Unit cost</b>	<b>No of units</b>	<b>No of days</b>	<b>Total Cost</b>
MIE	500	40	2	40,000
Facilitation allowance	2000	1	2	4,000
Per diem facilitators	0	5	3	-
Stationery	500	40	1	20,000
Communication	2000	1	1	2,000
Transport refund	1000	40	2	80,000
Conference facilities	5000	1	2	10,000
Postage and courier	200	40	1	8,000
<b>Total Cost</b>				<b>164,000</b>





