



USAID | **DELIVER PROJECT**
FROM THE AMERICAN PEOPLE

Rwanda: Harmonized LMIS System Design Review and SOP/Curriculum Development

Technical Report



JANUARY 2013

This publication was produced for review by the U.S. Agency for International Development. It was prepared by the USAID | DELIVER PROJECT, Task Order 4.

Rwanda: Harmonized LMIS System Design Review and SOP/Curriculum Development

Technical Report

USAID | DELIVER PROJECT, Task Order 4

The USAID | DELIVER PROJECT, Task Order 4, is funded by the U.S. Agency for International Development (USAID) under contract number GPO-I-00-06-00007-00, order number AID-OAA-TO-10-00064, beginning September 30, 2010. Task Order 4 is implemented by John Snow, Inc., in collaboration with PATH; Crown Agents Consultancy, Inc.; Eastern and Southern African Management Institute; FHI 360; Futures Institute for Development, LLC; LLamasoft, Inc.; The Manoff Group, Inc.; Pharmaceutical Healthcare Distributors (PHD); PRISMA; and VillageReach. The project improves essential health commodity supply chains by strengthening logistics management information systems, streamlining distribution systems, identifying financial resources for procurement and supply chain operation, and enhancing forecasting and procurement planning. The project encourages policymakers and donors to support logistics as a critical factor in the overall success of their health care mandates.

Recommended Citation

Roche, Gregory. 2012. *Rwanda: Harmonized LMIS System Design Review and SOP/Curriculum Development, Technical Report*. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 4.

Abstract

The MOH, with support from the project, agreed to review the current logistics system for medicines and the standard operating procedures (SOPs) for health logistics personnel. A final design was developed for a harmonized system that standardizes health product management and focuses on the inventory control system and the logistics management information system. After the system design elements were determined and finalized, all the training materials used when the original system was taught were updated to reflect the harmonized procedures.

Cover photo: Clients at a health clinic in Rwanda. USAID | DELIVER PROJECT.

USAID | DELIVER PROJECT
John Snow, Inc.
1616 Fort Myer Drive, 16th Floor
Arlington, VA 22209 USA
Phone: 703-528-7474
Fax: 703-528-7480
Email: askdeliver@jsi.com
Internet: deliver.jsi.com

Contents

- Acronyms..... v
- Acknowledgments vii
- Executive Summary ix
- Background..... 11
 - Purpose Statement 11
 - Specific Tasks Performed..... 11
- Methodology 13
 - Pre-Design Assessment 13
 - Five-Day System Design Review 14
- Products Managed under the Harmonized System 17
- Pipeline for Products and Information..... 19
 - Inventory Control System/Distribution Mechanisms..... 20
 - LMIS 22
 - Current Harmonized LMIS SOP and Curriculum..... 26
- Issues Relevant to System Roll Out 29
- Follow-Up Actions Needed 31
- Appendices
 - A. System Design Workshop List of Participants 33
 - B. System Design Workshop Schedule 35
 - C. Revised List of Products 37
 - D. Revision of Training Curriculum and SOP 47
 - E. Reviewed/Updated Materials..... 49
 - F. PowerPoint Presentation for Key Stakeholders 51
 - G. LMIS Forms..... 55
- Figures
 - 1. Rwanda Pipeline, Flow of Products and Information 19
- Tables
 - 1. Maximum-Minimum Stock Levels and Emergency Order Point..... 20
 - 2. Components to Set Maximum-Minimum Stock Levels and Emergency Order Point..... 21
 - 3. Summary of LMIS Forms, Usage and Purpose 23

Acronyms

AD	active distribution
ARV	antiretroviral
BUFMAR	<i>Bureau des Formations Médicales Agréées du Rwanda</i>
CHW	community health worker
DH	district hospital
DP	district pharmacy
EOC	emergency obstetric care
EOP	emergency order point
HC	health center
ICS	inventory control system
IMCI	Integrated Management of Childhood Illness
LMIS	logistics management information system
LMO	Logistics Management Office
max-min	maximum-minimum
MOH	Ministry of Health
MOS	months of stock
MPDD	Medical Procurement and Distribution Division
NBTC	National Blood Transfusion Center
NRL	National Reference Library
OI	opportunistic infection
R&R	Report and Requisition (form)
RBTC	Regional Blood Transfusion Center
RH	Referral Hospital
SC4CCM	Supply Chains 4 Community Case Management
SCMS	Supply Chain Management System
SDP	service delivery point
STTA	short-term technical assistance
TB	tuberculosis
USAID	U.S. Agency for International Development

Acknowledgments

This activity would not have been possible without the active participation of those who attended the design and curriculum development activities. Their thoughtful guidance and spirit of collaboration to achieve a common goal is greatly appreciated.

Acknowledgements are also due to the Ministry of Health, which continually strives to improve the level of health care in Rwanda. MOH leadership is greatly appreciated.

Executive Summary

In the past, the USAID | DELIVER PROJECT and the Supply Chain Management System (SCMS) have worked with the Ministry of Health (MOH) and other partners on a number of key initiatives, including establishing the harmonized logistics management information system (LMIS) to improve commodity security.

The MOH, with support from the project, agreed to review the current logistics system for medicines and the standard operating procedures (SOPs) for health logistics personnel.

A final design was developed for a harmonized system that standardizes health product management and focuses on—

Inventory Control System:

Includes short shelf life products, harmonized maximum-minimum stock levels for all products, at each level of the resupply system:

- facilities resupplying from the Medical Procurement and Distribution Division (MPDD): two month minimum, three month maximum, monthly review/resupply period
- facilities resupplying from intermediate resupply point: one month minimum, two month maximum, monthly review/resupply period

LMIS:

Includes harmonized logistics records that will be used for data collection and basic commodity management within and between facilities:

- Daily Activity Record
- Stock Card
- Delivery Notes
- Internal Requisition voucher
- Commodity Return form.

In addition to tuberculosis (TB) drugs and vaccines, a common harmonized pair of Report and Requisition (R&R) forms will be used to resupply health commodities:

- One version will be used at service delivery points (SDPs):
 - health centers
 - district hospitals
 - reference hospitals

- regional blood transfusion centers
- national reference laboratory.
- One version will be used by the intermediate-level resupply points:
 - district pharmacy
 - national blood transfusion center.

After the system design elements were determined and finalized, all the training materials used when the original system was taught were updated to reflect the harmonized procedures.

Background

In the past, the USAID | DELIVER PROJECT and the Supply Chain Management System (SCMS) have worked with the Ministry of Health (MOH) and other partners on a number of key initiatives, including establishing the harmonized logistics management information system (LMIS) to improve commodity security. Since the roll out of the harmonized LMIS in March/April 2011, more than 90 percent of health facilities have used the designed paper-based LMIS to order their monthly commodities.

One year after implementation, and following a quantitative and qualitative assessment of the current supply chain system performed in September/October 2011, the MOH, with support from the project, agreed to review the current logistics system for medicines and the standard operating procedures (SOPs) for health logistics personnel.

Purpose Statement

Based on the findings and recommendations of the assessment, the review addressed and revisited the—

- inventory control system (considering the active distribution between levels)
- list of commodities to monitor and report on
- commodity distribution flow
- LMIS and its reporting flow
- central-level reporting format
- roles and responsibilities for each category of health logistics personnel
- monitoring and evaluation plan for the supply chain
- current harmonized LMIS SOP, including incorporating laboratory commodities into the overall harmonized system
- current training curriculum.

Specific Tasks Performed

The following tasks were completed:

- pre-design assessment (June 11–15)
- five-day system design review (June 18–22)
- review of the current harmonized LMIS SOP and curriculum, in a small group workshop (June 25–29)

- PowerPoint presentation for key stakeholders (June 27–29).

Methodology

The system design was conducted in three phases: pre-design; design workshop, and development of SOPs and training curriculum, which would be used for the national roll out of the revised system. These three phases were supported by one external technical assistance provider, assisted by local USAID | DELIVER PROJECT and SCMS staff.

The pre-design included document reviews and key informant interviews with heads of government institutions involved in the health commodities supply chain. The interviews informed the stakeholders about the upcoming activity and gathered information that would be used for the design of the revised logistics system. To ensure that the most appropriate solutions were made, the information was included throughout the design process.

Field visits to two facilities were also part of the pre-design phase. Observations were made on the supply chain management for health commodities, including monitoring of the stock status and communication between the lower- and higher-level facilities.

The design phase included a workshop where participants revisited general logistics principles and specific design principles that are critical to the process. The participants were guided through the process of reviewing all aspects of the current system, as well as considering information from a recent laboratory system design activity. This group was tasked with harmonizing, as much as possible, the various procedures and processes used for commodity management, to ensure that as many products as possible could be managed with the common procedures. This would avoid fragmentation and multiple vertical supply chains and sets of processes and procedures; which would, in the end, complicate the work of commodity managers in the field.

The review included all technical aspects of the current system, including the flow of information and the forms used to collect and communicate information, the flow of products from the central level to the health facility-level, and the inventory control system that includes the parameters for the flow of products and information. It also included the current policies and procedures related to health commodity management and the roles and responsibilities for staff who manage health products and related information, at all levels of the system. The redesign of the harmonized LMIS considered the principles of the laboratory system design. For this activity, 26 people from various institutions and organizations involved in the supply chain participated in the review and design process.

The redesign phase was followed by a review of SOPs and training curriculum that will be used during the roll-out phase. The district pharmacy staff and a national team of logistics trainers conducted the review.

Pre-Design Assessment

The consultant completed a series of activities for the pre-design assessment: a documentation review, meetings with stakeholder, and site visits. The consultant reviewed the relevant documentation related to the current system design prior to leaving and while in-country. The documents included an assessment conducted in September 2011 and a report from supervision

visits that were held in June 2011. The results of the recent laboratory LMIS and system design provided additional documentation for this activity.

In addition to the document review, the consultant held a number of meetings with key stakeholders, including the MOH and project staff. The discussions centered on the challenges faced when implementing the current system and the possible strategies for using a system update/redesign to address the challenges.

The consultant also visited one district pharmacy and one health center in the Kigali area for a first-person view of how the current system is being implemented. The two facilities presented some of the challenges they face, including—

- lack of storage space at the health facility–level (and inability to expand storage capacity)
- confusion about how to complete some parts of the R&R form.

The visits also revealed, in addition to some of the strengths of the current system, that—

- the R&R form is usually completed correctly and on time
- recordkeeping at the pharmacy and health center–levels is generally good.

Based on the combined information obtained during the pre–design assessment, it was clear that the system usually functions well, although it has some particular challenges:

- Stock levels at the district pharmacy are generally inadequate to meet the facility needs.
- District pharmacies are often stocked out by the time their next consignment arrives.

Five-Day System Design Review

A five-day system design review workshop was held in Huye from June 18–22, 2012. The workshop included participants from all levels of the Rwanda supply chain, including the following:

From the central level:

- logistics management office
- program staff for several programs (tuberculosis [TB]; malaria, maternal and child health [MCH]/family planning)
- central warehouse staff
- SCMS, USAID | DELIVER PROJECT, and Supply Chains4Community Case Management (SC4CCM) project staff.

From the district level:

- district pharmacy directors
- district pharmacy deputies
- district data managers

- district pharmacy store managers.

From the health facility/service provision level:

- reference hospital staff
- district hospital staff
- health center staff.

See appendix A for the complete list of workshop participants and their affiliations.

Community health workers were not represented at the workshop; the system used to distribute health products from the health center to the community health workers (CHWs) and CHW-specific resupply procedures were not being considered for the redesign. The design group did, however, consider the linkages between the health center and the CHWs and the community health desk representative; the SC4CCM staff member represented the CHW level.

Of note, several workshop participants had also participated in the laboratory system LMIS/system design activity that took place in May 2012. Because of this, to ensure that, as much as possible; one unified and harmonized system could result, the recommendations from that activity were considered in the overall system design.

The workshop included three main phases:

- review of logistics principles
- update of the product lists
- redesign work and consensus on the redesigned system.

See appendix B for the full workshop schedule.

The general review of basic logistics principles helped prepare the participants for the redesign work. The review enabled the participants to update their knowledge of, or learn about for the first time, the logistics system design principles they would apply for the redesign.

The participants also discussed and updated the lists of target products that the system would manage. (All products should be managed using the same procedures; the target products, however, will be pre-printed on the appropriate LMIS forms.) Participants looked first at program-specific products; and then, generally, at essential medicines, including non-lab-specific consumables. This would ensure that the product listings—item descriptions, units of issue, and dispensing—were current and accurate.

In addition to the laboratory products list, all program products were reviewed and revised.

Note: While the lists revised during the workshop were considered *final* at the end of the workshop, subsequent discussions indicated that the lists need to be reviewed again to remove products that are no longer used for client services—certain antiretrovirals (ARVs)—although the products might be listed in the *official* list of products.

For lab products, the definition of that list will depend, in part, on a future standardization workshop, where a standard set of test machines and related supplies and consumables will be identified. At the time of this report, the standardization activity had not been planned because of

scheduling conflicts at the MOH. Because the LMIS forms need to be produced relatively quickly, a temporary option would be to define a set of basic lab products and put them on an initial list.

It should be noted that the general group produced a list of *essential medical supplies/consumables* that also includes items used by labs and other health service providers. The list includes items such as gloves and syringes, which the laboratory departments and other departments use in the health centers.

Note: While the lists revised during the workshop were considered *final* at the end of the workshop, subsequent discussions indicated that the lists need to be reviewed again to remove products that are no longer used for client services—certain ARVs—although the products might be in the *official* list of products.

See appendix C for the full revised product lists.

For the redesign, the workshop focused on three elements of the health product management system:

- LMIS
- inventory control system
- distribution mechanisms.

Participants were divided into four groups: two groups worked independently with the LMIS—content and format of forms, and flow of information—and two groups worked independently on the inventory control system and related distribution mechanisms. Each pair of groups worked on their target areas and then presented preliminary results to the group for comments and feedback. Later, the groups continued their work toward final proposals for their target areas; after each group finished, the group proposals were compared, contrasted, and discussed. The goal was to agree on one final inventory control system (ICS)/distribution system and one final LMIS that would provide the data needed to operate that system and that reflects the characteristics of the ICS, such as maximum stock levels.

It should be noted that, in the end, relatively few changes were made to the existing system for the ICS, distribution mechanisms, and LMIS. Most of the changes incorporated all the facilities and product categories into the same system. While there are some differences, which are explained in the following section, most procedures will be applied to most of the products. The technical aspects of the harmonized system are presented in the sections below.

Products Managed under the Harmonized System

The processes and procedures agreed upon by the design group will apply to most of the health products managed in Rwanda. This includes the following categories of *program* and other health products:

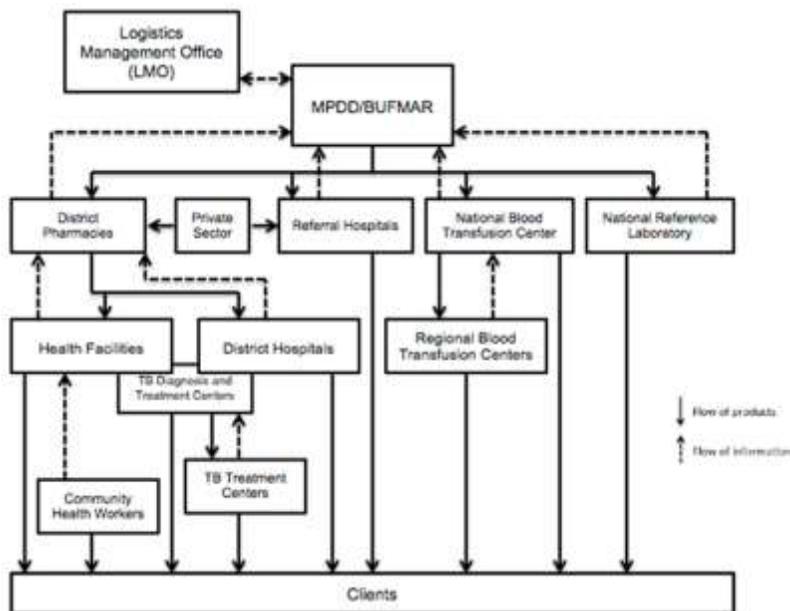
- tracer products (essential medicines and consumables)
- laboratory products and consumables*
- products for specific programs
 - ARVs
 - opportunistic infections (OIs)
 - family planning
 - emergency obstetrical care (EOC)
 - Integrated Management of Childhood Illness (IMCI)
 - nutrition
 - malaria
 - TB*
 - mental health.

*As noted elsewhere, minor exceptions apply for managing a few TB products and short shelf life laboratory products.

Pipeline for Products and Information

The overall pipeline for the flow of products and information did not change significantly from the current system (see figure 1). The primary revision was to include all facilities/entities that provide health services within the same common pipeline; and not limit the pipeline to district pharmacies, district hospitals, and health centers. The result was the inclusion of National Blood Transfusion Center (NBTC) and Regional Blood Transfusion Centers (RBTCs), National Reference Laboratory (NRL), and referral hospitals within the formal pipeline; reflecting the fact that all facilities will follow the same set of procedures for commodity resupply, commodity management, and reporting of information.

Figure 1: Rwanda Pipeline: Flow of Products and Information



Note that figure 1, the pipeline diagram, is for most, but not all, health products. Vaccines will continue to be managed in that vertical system and short shelf-life products (primarily limited to a small set of laboratory products) will follow the same general pipeline, but with specific procedures required for those special-needs products.

Inventory Control System/Distribution Mechanisms

The current use of the forced ordering version of the maximum-minimum (max-min) inventory control system was retained as the common system to manage all health commodities.

Maximum-Minimum Inventory Control System

With forced ordering, facilities place an order at the end of the *review period* and order all products up to the maximum stock level, which is based on the current stock on hand and monthly consumption, and the maximum stock levels established for the facility.

For managing all products, at all levels, except for TB products at the district level, the review period was set at *monthly*; the exception was for TB products at the district level, which are ordered quarterly.

Maximum-Minimum Stock Levels

The previous *official* system design at the district pharmacy-level had a maximum stock level of five months of stock and a minimum stock level of two months of stock, with quarterly reordering in a forced order mechanism. Because of overall stock shortages in the country, it was decided later that these stock levels could not be maintained; there was not enough supply in the country for district pharmacies to keep five months of stock. The result was a relatively arbitrary assignment of two-month maximum and one-month minimum, at the district pharmacy-level, with monthly reordering (still forced ordering).

After the actual lead times between the district pharmacies and MPDD/*Bureau des Formations Médicales Agréées du Rwanda* (BUFMAR) were analyzed, it was determined that a one-month minimum stock level was insufficient to meet the clients' needs. Workshop participants mentioned that, at many facilities, a number of products were near stockout when the new products arrived, a clear sign that the minimum stock level is set too low. The groups' analyses showed that district pharmacies require a minimum stock level of two months of stock: one-month lead time + one-month safety stock. Maintaining the monthly reorder interval produced a maximum stock level of three months of stock.

Note: These results are the same as the results from the lab system design work.

In addition to the district pharmacies, reference hospitals, NBTC, and NRF resupply from the MPDD/BUFMAR. Because the lead times and safety stock requirements are the same for all the facilities, their max-min levels reflect those at the district pharmacy-level.

Table 1. Maximum-Minimum Stock Levels and Emergency Order Point

Level/Facilities	Maximum	Minimum	EOP
MPDD	9 months of stock (MOS)	6 MOS	1.5 MOS
District pharmacy National Blood Transfusion Center (NBTC) Referral hospitals	3 MOS	2 MOS	0.5 MOS

National Reference Library (NRL)			
Health facilities Regional Blood Transfusion Centers (RBTC)	2 MOS	1 MOS	0.25 MOS
Total length of pipeline	14 months		

Note:

The max-min levels for MPDD are indicative, because it is MPDD's responsibility to set its own stock levels for adequate stock management.

The determinations explained above, and summarized in table 2, are based on the following common logistics practices related to max-min and emergency order point (EOP):

- minimum = lead time + safety stock
- maximum = minimum + review period
- EOP = longest lead time for emergency order.

Table 2. Components to Set Maximum-Minimum Stock Levels and Emergency Order Point

Level/Facilities	Lead Time	Safety Stock	Review Period	Lead Time for EOP
Medical Procurement and Distribution Division (MPDD)	3 months	3 months	3 months*	6 weeks
District pharmacy National Blood Transfusion Center (NBTC) Referral hospitals NRL	1 month	1 month	1 month	2 weeks
Health facilities RBTC	2 weeks	2 weeks	1 month	1 week

To apply the max-min system, the product managers at the facilities apply the following two-part *decision rule*:

1. At the end of every month, review all stocks and order up to the maximum stock level.
2. If you reach the EOP at any time during the month, place an emergency order.

Inventory Control System Exceptions for Tuberculosis Products

The inventory control system for TB products at the health facility-level will reflect the same monthly forced ordering as other products, but instead of being based on a strict *max-min*, they will calculate the product requirements based on the number of diagnosed patients, plus a percentage for buffer stock added to the expected consumption. At the facility level, the buffer will be 25 percent

of expected consumption; at the district, it will be 50 percent. Facilities will also report and order on a monthly basis, while district pharmacies will report and order on a quarterly basis.

Elimination of Cross-Docking for ARVs

As recommended by the lab design group, the current system of cross-docking be eliminated for ARVs. (MPDD uses cross-docking to pre-package products by facilities; those packs move through the district pharmacy). When the district pharmacy was not managing these products, they had no visibility into the supply chain for ARVs and they were unable to assist health facilities that were facing stock shortages or other issues. The facility could have an issue with some health facilities receiving the wrong ARV shipment; resolving the issue required a trip to the MPDD. Further, placing emergency orders from MPDD results in excess travel time and resupply time; it would be easier to resupply at the district pharmacy-level instead of the central level. For the MPDD, cross-docking individually packaged products for more than 400 facilities adds a significant workload. Based on these considerations, the group recommended that the district pharmacy-level once again manage the ARVs the same way they manage the other products (except short shelf life products). Facilities will resupply at the district pharmacy; the district pharmacy will resupply at the MPDD, with the same max-min stock levels applied.

In fact, cross-docking had been a temporary solution during a period when there were severe shortages of ARVs, so the decision to eliminate a level in the distribution system did reduce the overall commodity requirements for the country. Now, however, the situation appears to be stable, so the management of the ARVs should be able to return to normal; i.e., be managed the same as the other products in the system.

Inventory Control System Exceptions for Short Shelf-Life Products

As mentioned earlier, products with a short shelf-life will usually follow the same pipeline for the movement of products, but the specific procedures for managing these products will be adapted for any special requirements.

Products with a normal shelf life of less than six months remaining when the products arrive at the central level—usually limited to a small set of laboratory products—will be managed directly from MPDD to the health facilities. Additionally, MPDD will determine the quantities to issue. At the time of this short-term technical assistance (STTA), it was unclear whether MPDD would calculate the requirements based on historic usage (logistics data); or based on the number of tests, by machine type, at each facility. In any case, products will be sent to the districts for immediate dispatch to the health facilities, which is essentially, a limited cross-docking system.

LMIS

The LMIS will comprise the standard set of forms needed to provide the data required for decisionmaking at all levels of the system and to adequately manage products on a day-to-day basis.

The LMIS will include the following logistics *records*, which will be used to collect essential logistics and other data at the facility level and to track commodity movements throughout the system:

- consumption record
 - Daily Activity Record

- stockkeeping record
 - Stock Card
- transaction records
 - Monthly R&R
 - delivery notes
 - internal requisition voucher.

In addition to the logistics records above, the LMIS will include the following logistics reports, which will be used to send the required information from the lower levels to the higher levels:

- Monthly R&R
 - district pharmacy/NBTC/referral hospital (RH)/NRL to MPDD
 - health facility to district pharmacy/NBTC
- Monthly Feedback form
 - district pharmacy to health facility.

Note: The R&R form is a combined report and transaction record.

Overview of Rwanda LMIS Forms

Table 3 summarizes the various records and summary reports that are used to collect and send data for health product management. Each of the forms has a specific purpose; they should be used as indicated.

Table 3. Summary of LMIS Forms, Usage, and Purpose

Record/Report	Used by	Purpose
Dispensing Register (pre-printed with program products)	Dispensers at the health facilities	To record the quantities of program products dispensed to clients. Note: Not used for laboratory products.
Dispensing Register (not pre-printed; for non-program products)	Dispensers at the health facilities	To record the quantities of non-program products dispensed to clients. Note: Not used for laboratory products.
Stock Card	All levels	Records essential logistics data items, including stock on hand, issues and receipts, and losses/adjustment. Source of data on all supplies received, stored in, and distributed out of facility stores. Note: For laboratory products, quantities issued to the lab are counted as <i>consumption</i> on the R&R.

Internal Requisition form	Service providers (dispensers/lab managers) Facility store managers	Standardizes information flowing between the service delivery point (dispensing area, laboratory) and the pharmacy store.
Report & Requisition form	Health Center (HC) District hospital (DH) Regional Blood Transfusion Centers (RBTC) Referral hospital (RH)	Reports balance on hand, usage, and losses/adjustments data up to the district pharmacy or National Blood Transfusion Center (NBTC) level; used for all program products, all laboratory commodities (including program + non-program), and a tracer set of essential medicines and consumables.
Report & Requisition form	District pharmacy NBTC National Reference Library (NRL)	Reports balance on hand, usage, and losses/adjustments data up to the MPDD level; used for all program products, all laboratory commodities (including program + non-program), and a tracer set of essential medicines and consumables.
Commodity Return form	All levels	Accompanies products that are returned to the supplier (district pharmacy [DP], NBTC, or MPDD). Documents the reason for the return and quantity of products being returned.
Active Distribution (AD) Packing list	DP NBTC	Accompanies products delivered to health facilities via AD. Acts as an issue and receipt voucher for all commodities included in AD.
MPDD or BUFMAR Delivery Note	DP RBTC NRL RH	Accompanies packages delivered to health facilities from MPDD or BUFMAR. Acts as an issue and receipt voucher for all packages delivered.
MPDD Feedback form	DP NBTC NRL RH	Accompanies deliveries from MPDD and documents discrepancies between request quantities and issue quantities.
Logistics Management Office (LMO) Logistics Supervision Checklist	DP NBTC	Documents logistics supervision visit findings and follow-up actions.
LMO Quarterly Logistics Performance Report	DP NBTC RBTC DH NRL RH	Documents compiled logistics data on a quarterly basis.

The general characteristics of the LMIS forms are—

- Same format for all products*:
 - Same format for all facilities resupplied by MPDD and that resupply lower-level facilities
 - district pharmacy

- NBTC.
- Same format for all facilities that do not resupply lower-level facilities:
 - health centers (sent to district pharmacy)
 - RBTC (sent to NBTC)
 - referral hospitals (sent to MPDD and with three-month max)
 - NRL (sent to MPDD and with three-month max).

Note: See appendix G for examples of the various forms.

*See the exception for TB products, as noted below.

The content of the forms is largely unchanged, with the few exceptions noted below.

Format of the R&R Form at the District Health Level

The form currently being used between the district pharmacies was maintained with all the current report columns. The form was updated to reflect the three-month maximum when calculating reorder quantities; the previous *Quantities Received* column was changed to *Quantities Issued*. This reflects how the form is actually used, with the MPDD using the column to indicate the quantities that will be picked and packed for the district. Because the district does not receive a copy of the R&R with its product shipments—they receive an MPDD Delivery Note with the receipts acknowledged—it was not logical to have a *Quantity Received* column on the form. Changes to the signatures section of the R&R were also changed to reflect the change in the column heading and the use of the form. The *Product Code* column was removed.

Because NBTC serves the same function as the district pharmacy—resupplying the lower-level RBTCs—the NBTC will use the same format as the district pharmacy report and order. They will be able to report on quantities used at the RBTC, as well as reporting on stocks at and issues from the NBTC.

R&R Format at the Health Facility/ District Health Level

The form currently being used between the health facilities/district hospitals and the district pharmacies kept all the current report columns. The NRL, RHs, and RBTCs will also use this form because they have the same functions as the health facility and district hospital.

The form was updated to include both a *Quantities Issued* column and a *Quantities Received* column. The signatures section of the R&R were also changed to reflect the additional column. The Product Code column was removed from the form.

LMIS Exception for RBTC, NRL, and Referral Hospitals

Because the RBTCs, NRL, and RHs all serve the same essential purpose as the health center/district hospital—serving clients but not resupplying lower-level facilities—those facilities will use the same format. However, because those facilities resupply at the MPDD and, therefore, have a different maximum (and minimum) stock level (three months of stock [MOS] at RBTC, NRL, and RH; two MOS at the health center/district hospital), the RBTC, NRL, and RH, the instructions will be to

multiply monthly consumption by three instead of two; this instruction is pre-printed on the form. This avoids having to print separate versions for those facilities with three MOS maximum, crowding an additional formula onto the form—possibly confusing the user—or asking the facilities to do additional *gymnastics* with the district pharmacy forms that are printed with three-month maximum stock.

LMIS Exception for Tuberculosis Products

Related to the slight difference in the ICS for TB products noted above, the TB report and requisition is significantly different from the standard. While the TB form has both separate reporting and requisition sections, the reporting section drops the columns for losses/adjustments; the requisition section is based on quantities needed to treat an expected number of patients; plus the percentage for buffer stock, minus the current stock on hand. Additionally, because the TB program has implemented quarterly resupply at the district level, the name of the TB form is slightly different, although the report content is the same.

Format of the Stock Card

The group at this workshop decided, after much discussion, that separate columns for losses/adjustments would not be needed, in spite of arguments to the contrary and the recommendation to add the columns from the lab design workshop. Participants felt that because losses/adjustments were already recorded, although in the issues and receipts columns, no other mechanism was needed. The participants also felt that adding two more columns to the form would make the columns too narrow. On the other hand, the group did decide to add a column for the batch number, in addition to the already existing column for the expiration date. The lower section of the form was amended to include *Monthly Consumption/Distribution*, so the terminology more accurately reflects the use of the form at both the health facility (consumption) and district pharmacy (distribution) levels.

Current Harmonized LMIS SOP and Curriculum

After the system design elements were finalized during the first workshop, a second smaller group met for a second week. They reviewed and updated the existing SOP manual and the existing training curriculum for the roll-out trainings, during which staff will receive training on the updated procedures and forms. The SOP/curriculum review workshop participants all attended the design workshop, so the group could move forward without revisiting the design decisions that had already been made. See appendix D for the complete list of week 2 (June 25-29, 2012) workshop participants.

The process for the review/revision of the SOP and curriculum was as follows:

1. Pairs of participants did a first review/update for the existing materials.
2. A second pair of participants then reviewed the review/updates.
3. The SITTA provider reviewed the *second reviewed* versions again.

After all the reviews were completed and the final changes made, the materials were assembled as follows:

1. final draft *SOP Users Guide* (see note below)

2. final draft of all roll-out training sessions (facilitator notes and materials)
3. final draft of the participant workbook for the roll-out trainings
4. review of draft *ISO-format* SOPs.

See appendix E for the complete listing of all the reviewed and updated materials. All the draft materials are available as electronic attachments to this report, as well as through the *Dropbox* cloud storage, which the local team can access.

Special Note Related to the ISO-Format SOPs

During the lab design workshop, participants decided to produce SOPs in ISO format, which resulted in a set of 10–12 page SOPs, one for each commodity management element: filling an R&R, conducting physical inventory, etc.). Because these SOPs are (1) huge and (2) not particularly user-friendly for someone with the skills-level at a health facility, the participants decided to keep the ISO-format SOPs as a *reference copy* that will be maintained at the higher-level facilities, while the former *SOP Manual* would become the *SOP Users Guide*. The guide will focus on a simple presentation—only the job aids—which are presented as a *process* in the ISO-format SOPs.

Because the workshop group did not have time to complete the *SOP Users Guide*, which was needed for the imminent roll-out trainings, the curriculum and related participant workbook; also needed for the roll outs *and* the ISO-format SOPs; the ISO-format SOPs were not finalized to the same extent as the other materials. Those SOPs need further review and revision, most notably the process diagrams that are included in the documentation.

It should be stressed, however, that the technical content of all materials, including the ISO-format SOPs, reflect the same system that was finalized during the design workshop but need process flow diagrams.

There was an exception for managing short shelf life products: still to be resolved/clarified are a number of comments and issues related to the exact details of the process that will be used to resupply short shelf-life products. Such comments/questions were indicated in the ISO-format SOP; for instance, exactly how MPDD will determine resupply quantities for the health centers. Unfortunately, the SOP/curriculum review workshop group did not include someone with the needed skills to clarify/decide about issues for that SOP. *As a result, both the ISO-format SOP and the related section in the SOP Users Guide, and the related training session, need to be updated, after the SOP is finalized/clarified.*

Preparation of a PowerPoint Presentation for Key Stakeholders

A PowerPoint presentation highlighting the features of the harmonized system was prepared for a high-level stakeholders' meeting. Unfortunately, the meeting was scheduled for Friday, July 6, after the STTA visit ended.

See appendix F for a copy of the PowerPoint slides.

Issues Relevant to System Roll Out

One issue related to the system design/roll out is the impact the ICS decisions had on product availability, particularly those noted below:

Increasing the Maximum-Minimum Levels at the District to Three Months/Two Months

When the districts place their first orders under the revised procedures, they will be ordering an additional month of stock over and above what they normally ordered:

- At the end of the review period, district pharmacies with stock close to the previous minimum of one month of stock will need to order two months of stock to achieve the new maximum of three months of stock.
- District pharmacies that are near stockout at the end of the month, as reported during the design workshop, will order three months of stock, which is a one-month increase over what they would normally order to achieve the previous maximum of two months of stock.

Eliminating Cross-Docking at the District Level for ARVs

When districts place their first orders for ARVs, they will also order up to three months of stock. Those quantities will essentially transfer from MPDD management to district management; MPDD must be able to respond to those orders.

It should be noted that for both instances, the MPDD representative who was present at the design workshop confirmed that MPDD would be ready to respond to these situations when the roll out was underway.

Note: The initial success of the redesigned system will depend, to a large extent, on the ability of MPDD to fulfill the maximum stock that is demanded. If products are still being heavily rationed, then districts will receive an even lower percentage of their order quantities and will perceive that MPDD is less able to meet their product needs, even if the absolute quantities of products they receive is the same as what they would have received under the old system.

Follow-Up Actions Needed

To fully prepare for the next phases in the process—the roll-out trainings and subsequent roll out of the harmonized system—the following activities need to take place:

- Finalize SOP (ISO-format and users guide version) and training curriculum/facilitators guide for managing short shelf-life products.
- Obtain finalized TB program R&Rs: monthly form for health facility; quarterly form for district pharmacy.
- Produce job aids for completing the TB forms: health facility version and district version.
- Develop practical exercises for completing the TB R&Rs: health facility version and district version. Add the related activities to the training curriculum/facilitator notes and revise the timing of the impacted sessions. Add the related exercise materials to the training participant workbook.
- Complete final review of training session time requirements and update/finalize the roll-out training schedule, based on actual time requirements.
- Review and finalize program product lists to be pre-printed on the R&R forms.
- Finalize the list of lab products to be pre-printed on that version of the R&Rs.
- Print finalized R&R forms (health facility and district pharmacy versions); they are ready to be distributed after each roll-out training session is complete.
- Complete final review and MOH approval/sanction of SOPs (ISO-format and users guide version).
- Print SOP users guide for all training participants.
- Print ISO-format SOPs for appropriate central-level personnel and, possibly, district-level, personnel; e.g., one copy per district.
- After the roll out is underway, estimate the ARV product requirements at the district level and ensure that those products are ready for distribution when the ARV requisitions begin arriving from the districts.

Appendix A. System Design Workshop List of Participants

Rwanda LMIS System Design Workshop, Huye, Rwanda June 18-22, 2012

List of Participants

No	Name	Institution	Position	Email	Telephone
1	RwabukeraE Fidel	Active Distribution Manager	MPDD	frwbukera@yahoo.fr	0788307260
2	Rutambika Noel	CHUB	HOD Pharmacy	rutambika@yahoo.fr	0788492525
3	Muhgirwa Peirrot	Ruhango District Pharmacy (DP)	Director	Piem01@yahoo.fr	0788768351
4	Rurangwa Clement	Bugesera District Pharmacy	Director	Matonde2000@yahoo.fr	0788844647
5	Uwizeyimana Francine	Bushara Health Center (HC)	Store manager	Uwajanny10@yahoo.fr	0788498898
6	Kwitonda Marie Rose	Gikonda HC	Store manager	kwitorose@yahoo.fr	0783018331
7	Utamura Samira	Kamabuye HC	Store manager	utamusami@yahoo.fr	0788445760
8	Muhire Gladys	USAID DELIVER PROJECT	Logistics Advisor	gmuhire@jsi.org.rw	0788301151
9	Debarego Herve	Rubavu DP	Pharmacist	Herde03@gmail.com	0788460270
10	Mutezinkwano Axelle	Nyarugenge DP	Pharmacist	Axelle1504@gmail.com	0788893689
11	Nsabimana P. Olivier	Kibilizi District Hospital (DH)	Pharmacist	Olinsabi003@yahoo.fr	0788534335
12	Nyirumugisha Martin de Tours	Nemba DH	Pharmacist	nyirumugisha@yahoo.fr	0788491554
13	Maombi M. Ferdinand	Musanze DP	Data Manager	fmaombi@yahoo.com	0783256693
14	Hakuzwimana Marie	Karongi DP	Store manager	Hamaruda@yahoo.fr	0728465046
15	Ngendabanga Benjamin	Rwamagana DP	Data Manager	Benga2007bingi@yao.fr	0788656220
16	Biziyaremye Floribert	RBC/TB&OR Division	Logistics Officer	bfloribert@gmail.com	0788813668
17	Mirimo Jean	MOH/PTF	CPDS coordinator	mirijea@yahoo.fr	0788634972
18	Kabatende Joseph	MOH/PTF	LMO coordinator	josephkabatende@gmail.com	0788792286
19	Nkurunziza Janvier	Muhanga DP	Data Manager	janviernkuru@gmail.com	0788739156
20	Kabalisa Max	JSI	MIS/IT advisor	max@rw.pfscm.org	0788306808

21	Habiyaremye Theobald	RBC/HIV Division	Logistics Officer	hatheogashugi@gmail.com	0788755822
22	Roche Greg	JSI	Sr Technical Advisor	groche@jsi.com	
23	Wane Ngenzi Olivier	MoH/MCH	Logistics Officer	Oligen2006@yahoo.fr	0788358649
24	Mukundwa Diane	MOH/PTF	LMIS officer	mukudiane@gmail.com	0788681523
25	Nganji Patrick	SC4CCM	Resident Advisor	pnganji@jsi.org.rw	0788357656
26	Ndahinyuka Jovith	USAID DELIVER PROJECT	Logistics Advisor	jndahinyuka@jsi.org.rw	0788304505
27	Ngabo Natalie	RBC/Malaria&OP Division	Logistics Officer	Ngabo_natalie@yahoo.fr	0788526178
28	Pehe Norbert Aime	JSI	Country Director	npehe@jsi.com	0788893790
29	Kelly Hamblin	USAID Rwanda	SCM Advisor	khamblin@usaid.gov	07888307980

Appendix B. System Design Workshop Schedule

Review and Update of Rwanda LMIS

System Design Workshop

June 18 – 22, 2012

Workshop Schedule

Monday, June 18, 2012

8:30 – 9:30	Workshop Opening
9:30 – 11:00	Introduction to the Workshop
11:00 – 11:15	break
11:15 – 12:30	Introduction to Logistics
12:30 – 1:30	lunch
1:30 – 3:30	Logistics Management Information Systems
3:30 – 3:45	break
3:45 – 4:45	Assessing Stock Status
4:45 – 5:00	End of Day Review
5:00 – 5:30	<i>Facilitator Debrief</i>

Tuesday, June 19, 2012

8:00 – 8:15	Introduction to the Day
8:15 – 10:15	Maximum-Minimum Inventory Control Systems
10:15 – 10:30	break
10:30 – 11:30	Maximum-Minimum Inventory Control Systems
11:30 – 1:00	Review of Current Rwanda Systems
1:00 – 2:00	lunch
2:00 – 2:30	Review of Current Rwanda Systems
2:30 – 3:30	Additional Input for Design Decisions
3:30 – 3:45	break
3:45 – 4:45	Additional Input for Design Decisions
4:45 – 5:00	End of Day Review
5:00 – 5:30	<i>Facilitator Debrief</i>

Wednesday, June 20, 2012

8:00 – 8:15	Introduction to the Day
8:15 – 9:15	Identification of Design Needs
9:15 – 10:15	Agreement on Target Products
10:15 – 10:30	break
10:30 – 1:00	Agreement on Target Products
12:30 – 1:30	lunch
1:30 – 3:30	Group Work Assignments and Group Work #1
3:30 – 3:45	break
3:45 – 4:45	Group Work #1, continued
4:45 – 5:00	End of Day Review
5:00 – 5:30	<i>Facilitator Debrief</i>

Thursday, June 21, 2012

8:00 – 8:15	Introduction to the Day
8:15 – 9:15	Group Work Check-in #1
9:15 – 10:15	Group Work #2
10:15 – 10:30	break
10:30 – 12:30	Group Work #2, continued
12:30 – 1:30	lunch
1:30 – 2:45	ICS Group Report-out and Consensus on ICS
2:45 – 3:00	break
3:00 – 4:15	LMIS Group Report-out and Consensus on LMIS
4:15 – 4:45	Remaining Issues
4:45 – 5:00	End of Day Review
5:00 – 5:30	<i>Facilitator Debrief</i>

Friday, June 22, 2012

8:00 – 8:15	Introduction to the Day
8:15 – 10:00	Feedback Reports and Feedback Reporting
10:00 – 10:30	Roles and Responsibilities
10:30 – 10:45	break
10:45 – 12:15	Roles and Responsibilities
12:15 – 12:45	Implementation Plan and Next Steps
12:45 – 1:00	Workshop Closing
1:00 – 2:00	lunch
2:00 – 3:00	<i>Facilitator Debrief</i>

Appendix C. Revised List of Products

Note: Although the lists were intended to be “final” at the end of the workshop, subsequent discussions and comments led to the conclusion that the lists need to be reviewed again for accuracy and completeness.

Revised Product Lists	
FAMILY PLANNING	
CONDOM, FEMALE	PIECE
CONDOM, MALE	PIECE
CYCLE BEADS	PIECE
DEPO-PROVERA	VIAL
IUD	PIECE
JADELLE	SET
MICROGYNON	CYCLE
MICROLUT	CYCLE
EMERGENCY OBSTRETICAL CARE	
ERGOMETRINE INJ. 0.200MG/ML	VIAL
MAGNÉSIUM SULFATE INJ.	VIAL
OXYTOCINE INJ. 5 UI/ML	VIAL
INTEGRATED MANAGEMENT OF CHILD ILLNESS	
AMOXYCILLINE 125 MG	TABLET
MISOPROSITOL	
ORAL REHYDRATATION SALT (ORS)	PACK
ZINC SULFATE 10 MG	TABLET
NUTRITION	
CSB	KG
F 100	BOX
F 75	BOX
ONGERA INTUNGABUZIMA	
PAMPLY NUT (RUTF)	BOX

ARVs	
ABACAVIR (AS SULFATE) 20MG/ML	BOTTLE
ABACAVIR (AS SULFATE) 300MG	BOX OF 60 TABS
ABACAVIR- LAMIVUDINE 60/30 MG	BOX OF 60 TABS
DARUNAVIR 300MG	BOX OF 120 TABS
DIDANOSINE DELAYED-RELEASE 250MG	BOX OF 30 CAPS
DIDANOSINE DELAYED-RELEASE 400MG	BOX OF 30 CAPS
EFAVIRENZ 200MG	BOX OF 90 CAPS
EFAVIRENZ 30MG/ML	BOTTLE
EFAVIRENZ 50MG	BOX OF 30 CAPS
EFAVIRENZ 600MG	BOX OF 30 TABS
ETRAVIRINE 100MG	BOX OF 120 TABS
INDINAVIR 400MG	BOX OF 180 CAPS
LAMIVUDINE 10MG/ML	BOTTLE
LAMIVUDINE 150MG	BOX OF 60 CAPS
LAMIVUDINE-STAVUDINE 150/30MG	BOX OF 60 CAPS
LAMIVUDINE-STAVUDINE-NEVIRAPINE 150/30/200MG	BOX OF 60 TABS
LAMIVUDINE-STAVUDINE-NEVIRAPINE 60/12/100MG	BOX OF 60 TABS
LAMIVUDINE-ZIDOVUDINE 150/300MG	BOX OF 60 TABS
LAMIVUDINE-ZIDOVUDINE 30/60MG	BOX OF 60 TABS
LAMIVUDINE-ZIDOVUDINE-NEVIRAPINE 150/300/200MG	BOX OF 60 TABS
LAMIVUDINE-ZIDOVUDINE-NEVIRAPINE 30/60/50MG	BOX OF 60 TABS
LOPINAIR-RITONAVIR 200/50MG	BOX OF 120 TABS
LOPINAIR-RITONAVIR 80/20MG/ML	BOTTLE
NELFINAVIR (AS MESILATE) 250MG	BOX OF 270 TABS
NELFINAVIR 50MG/G	BOTTLE
NEVIRAPINE 10MG/ML	BOTTLE
NEVIRAPINE 200MG	BOX OF 60 CAPS
RALTEGRAVIR 400MG	BOX OF 60 TABS
RITONAVIR 100MG	BOX OF 336 CAPS
TENOFOVIR DISOPROXIL FUMARATE 300MG	BOX OF 30 TABS
TENOFOVIR DISOPROXIL FUMARATE-LAMIVUDINE 300/300MG	BOX OF 30 TABS
TENOFOVIR DISOPROXIL FUMARATE-LAMIVUDINE- EFAVIRENZ 300/300/600MG	BOX OF 30 TABS
ZIDOVUDINE 10MG/ML	BOTTLE
ZIDOVUDINE 300MG	BOX OF 60 TABS
HIV Rapid Test Kits	
Determine HIV 1/2	Box of 100 tests
Unigold HIV 1/2	Box of 20 tests

OIs	
ACYCLOVIR 5% CREAM TOPIC 5G	TUBE
ACYCLOVIR 800MG TABLET	TABLET
AMPHOTERICINE B 50MG, FLACON INJ.	VIAL
BLEOMYCINE 1500UI, FLACON INJ.	VIAL
COTRIMOXAZOLE 120 MG TABLET	TABLET
COTRIMOXAZOLE 480 MG TABLET	TABLET
COTRIMOXAZOLE 480MG/5ML INJECTION	VIAL
COTRIMOXAZOLE 960 MG TABLET	TABLET
COTRIMOXAZOLE SUSPENSION 200MG + 40MG/5ML	BOTTLE
DAPSONE 100MG, TABLET	TABLET
DIFLUCAN 200 MG TABLET	TABLET
DIFLUCAN 50MG/5ML SYRUP	BOTTLE
METRONIDAZOLE 500MG TABLET	TABLET
VINCRISTINE SULFATE 1MG VIAL INJ	VIAL

MALARIA	
ALBENDAZOL 400MG	TABLET
ARTESUNATE 60MG/ML	VIAL
ARTHEMETHER 20MG/ML	VIAL
ARTHEMETHER 80MG/ML	VIAL
COARTEM 6X 1	BLISTER
COARTEM 6X 2	BLISTER
COARTEM 6X 3	BLISTER
COARTEM 6X 4	BLISTER
PRAZIQUANTEL 600MG	TABLET
PRIMO® JAUNE	BLISTER
PRIMO® ROUGE	BLISTER
QUININE 300MG	TABLET
QUININE 300MG/ML	VIAL
RAPID DIAGNOSTIC TESTS	TEST

TB MEDICINES	UNIT
ADULT FIRST-LINE MEDICINES	
ETHAMBUTOL 400	TABLET
RH (150/75)	TABLET
RHE (150/75/275)	TABLET
RHZE (150/75/400/275)	TABLET
RIFAMPICINE 150	TABLET
STREPTOMYCINE (1GR)	VIAL
PAEDIATRIC COMBINATIONS	
ETHAMBUTOL 100	TABLET
RH (60/30)	TABLET
RH (60/60)	TABLET
RHZ (60 / 30 / 150)	TABLET
IPT	
ISONIAZIDE (H) 100 MG	TABLET
ISONIAZIDE (H) 300 MG	TABLET
SECOND-LINE TREATMENT	
CAPREOMYCINE (1G)	AMP
CLOFAZIMINE (100MG)	CES
CYCLOSERINE (250MG)	CES
KANAMYCINE (1G)	AMP
LEVOFLOXACINE (250MG)	CES
PASER GRANULES	BOXES
PROTHIONAMIDE (250MG)	CES
PYRAZINAMIDE (400MG)	CES
PYRIDOXIN 50 MG	TABLET
PYRIDOXINE 100 mg	CES
TUBERCULIN	PC

Mental Health Products	
AMITRIPTYLINE 25 MG	TABLET
BIPERDEN 2MG	TABLET
CARBAMAZEPINE 200MG	TABLET
CHLORPROMAZINE 25MG	TABLET
CHLORPROMAZINE 25MG /ML	Amp
CINNARIZINE 25MG	TABLET
CLOMIPRAMINE 25MG	TABLET
CLORAZEPATE 5MG	TABLET
DIAZEPAM 10MG/2ML	Amp
DIAZEPAM 5MG	TABLET
FLUPENTIXOL 1MG	TABLET
HALOPERIDOL 5MG	TABLET
HALOPERIDOL 5MG/ML	VIAL
LEVOMEPRMAZINE 25MG	TABLET
LEVOMEPRMAZINE 25MG/ML	VIAL
PHENOBARBITAL 100MG	TABLET
Phenobarbital 200mg/2ml	Amp
PHENOBARBITAL 30MG	TABLET
PHENYTOINE 100MG	TABLET
VALPROIC ACID/ SODIUM VALPROATE 150MG	TABLET
VALPROIC ACID/ SODIUM VALPROATE 200MG	TABLET
VALPROIC ACID/ SODIUM VALPROATE 300MG	TABLET

Essential Medicines	Unit
Acetyl. lysine 500mg amp inj	Vial
Acetylsalicylique ac 100 mg cp	Tab
Acetylsalicylique ac 500 mg cp	Tab
Adrenaline 1mg/ml amp inj	Amp
Aluminium hydroxyde 500 mg cp	Tab
Aminophylline 100 mg cp	Tab
Aminophylline 25mg/ml amp inj	Amp
Amoxicilline 125mg/5ml susp b/100ml	Bottle
Amoxicilline 250mg GELULE	Caps
Ampicilline 500 mg inj vial	Vial
Atropine 0,5 mg/ml amp inj	Amp
Benzathine Penicilline 2.4 MUI	Vial
Benzylpenicilline sod 5 M vial	Vial
Bupivacaine 0.5% 100mg/20ml	Amp
Bupivacaine hyperbare 0.5% 4ml	Amp
Butylscopolamine 10mg cp	Tab
Butylscopolamine 20mg/ml amp	Amp
Calcium gluconate 100mg/ml inj	Amp
Céfotaxime 1g poudre inj	Vial
Charbon active 125mg cp	Tab
Chloramine 500mg comp	Tab
Chlorhexidine 1.5%+Cétr.15%1L	Bottle
Cimetidine 100mg/ml amp 2ml	Amp
Cimetidine 200 mg cp	Tab
Ciprofloxacin 500 mg cp	Tab
Clonidine 150 micrg/ml amp inj	Amp
Cloxacilline 250 mg gel	Caps
Cloxacilline 500 mg/ml vial	Vial
Cotrimoxazole inj. 80 mg + 16 mg/ml amp. de 10 ml	Amp
Cotrimoxazole 120 mg cp	Tab
Cotrimoxazole 240mg/5ml S 100ml	Bottle
Cotrimoxazole 480 mg cp	Tab
Digoxine 250 µg/ml amp inj. 2 ml	Amp
Dopamine 40 mg/ml amp inj 2ml	Amp
Doxycycline 100 mg cp	Tab
Ephedrine 50mg/ml amp 1ml	Amp
Erythromycine 250 mg cp	Tab
Fentanyl 0,5 mg/ml amp 2ml	Amp

Essential Medicines	Unit
Fer sulf200mg+ac.fol 0.25mg cp	Tab
Furosemide 10mg/ml amp inj 2ml	Amp
Furosemide 40 mg cp	Tab
Gentamycine 40mg/ml amp inj2ml	Amp
Glucose 50% ampoule 100 ml	Bottle
Glucose iso 10% flacon 500 ml	Bottle
Glucose iso 5% flacon 500 ml	Bottle
Haemacell 30g/l fl 500 ml	Bottle
Halothane inhalation fl 250ml	Bottle
Ibuprofène 200 mg cp	Tab
Indomethacine 25 mg cp	Tab
Insuline HM 100UI/ml amp inj L	Vial
Insuline HM 100UI/ml amp inj R	Vial
Iode polyvidone 10% fl 200 ml	Bottle
Javel Comprimés	Tab
Ketamine 50mg/ml fl inj 10ml	Vial
Ketoconazole 200 mg cp	Tab
Lidocaine 2% flacon inj 50 ml	Bottle
Lidocaine2%+epineph 1.8ml dent	Bottle
Mebendazole 100 mg cp	Tab
Methyldopa 250 mg cp	Tab
Metoclopramide 5 mg/ml inj amp	Amp
Metronidazole 200mg/5ml fl 100 ml sirop	Bottle
Metronidazole 250mg cp	Tab
Métronidazole 500 mg cp vagin	Pessaries
Metronidazole 500mg/ml amp inj	Vial
Morphine 10 mg/ml amp inj	Amp
Naloxone HCL 0.4 mg/ml amp 1ml	Amp
Néostigmine 0.5 mg amp 1ml	Amp
Nifedipine 20 mg cp	Tab
Nifedipine 10 mg cp	Tab
Norfloxacin 400mg comp	Tab
Nystatine 100.000UI cp vaginal	Pessaries
Nystatine 500.000 UI cp	Tab
O. R.S.pr 1litre sachet 20.5 g	Sachet
Pancuronium inj	Amp
Paracetamol 100mg cp	Tab
Paracetamol 500 mg cp	Tab
Peni procaine 3+1 M UI fl inj	Vial

Essential Medicines	Unit
Penicilline V 250 mg cp	Tab
Pethidine chl 50mg/ml amp inj	Amp
Prednisolone 5 mg cp	Tab
Promethazine 25mg/ml inj 2 ml	Amp
Propranolol chlorhy 40 mg cp	Tab
Ringer lactate flacon 500 ml	Bottle
Salbutamol 500µg/1ml amp inj	Amp
Sodium chl 0,9% flacon 500 ml	Bottle
Suxamethonium 50mg/ml amp inj	Amp
Tetracycline 1%pde ophtalmique	Tube
Thiamine Hydrochoride 50mg cp	Tab
Vaccin antirabique amp inj 1 D	Amp
Vécuronium bromure 4mg inj(Nor	Amp
Vitamine B Complexe inj 2 ml	Amp

Essential Medical Consumables	Unit
Aiguille hypodermique UU 21G	Piece
Aiguille hypodermique UU 27G	Piece
Aiguille hypodermique UU 23G	Piece
Aiguille PL UU luer 22 G 63 mm	Piece
Aiguille PL UU luer 22 G 90 mm	Piece
Aiguille PL UU luer 25 G	Piece
Alcool dénaturé 96% 5L	Litter
Bande gaze 10 m x 5 cm	Piece
Bande Nylex 10 cm x 4 m B/12	Piece
Bande platree 10 cm x 3m	Piece
Bande platree 15 cm x 3m	Piece
Bande platree 20 cm x 3m	Piece
Catgut chr dec3.5(2/0) PR3/8C	Piece
Catheter court IV, UU 18G	Piece
Catheter court IV, UU 20G	Piece
Catheter court IV, UU 22G	Piece
Catheter court IV, UU 24G	Piece
Compresse Parrafinée 10cmx10cm	Piece
Coton hydrophile rouleau 500 g	Piece
Eau pour inj flacon 10 ml	Vial
Ficelle ombilicale	Piece
Fil NR synth MDec3(2/0)S PT3/8C	Piece
Fil R synth T déc2(3/0)PR1/2C	Piece
Fil R synth T déc3 (2/0)PR1/2C	Piece
Fil R synth T déc3 (2/0)PT3/8C	Piece
Fil R synth T déc4 (1)S PR1/2C	Piece
Film radiologie 18 cm x 24 cm	Piece
Film radiologie 24 cm x 30 cm	Piece
Film radiologie 30 cm x 40 cm	Piece
Film radiologie 35 cm x 35 cm	Piece
Film radiologie 35 cm x 43 cm	Piece
Fixateur film sol conc. 20l	Litter
Gant d'examen NS UU T7.5	Piece
Gants chir steriles UU T 7.5	Piece
Gants gynécologique UM T7.5	Piece
Gel pour Echographie 250 ml	Tube
Poche à urine (2 litres)	Piece
Seringue insuline 1ml100UI+Aig	Piece

Essential Medical Consumables	Unit
Revelateur film sol conc.22.5l	Litter
Rouleau gaze hydro 90cm/91m	Piece
Sachets Minigrip pour médic.	Piece
Seringue UU luer 10 ml +aig 21G	Piece
Seringue UU luer 5 ml +aig 21G	Piece
Sparadrap tissé 5cm x 5m	Piece
Thermometre medical °C	Piece
Thermometre oral/rectal °C B/1	Piece

Appendix D. Revision of Training Curriculum and SOP

Rwanda Revision of Training Curriculum and SOP

Huye, Rwanda June 25-29, 2012

List of Participants

No	Name	Institution	Position	Email	Telephone
1	Rwabukera Fidel	Active Distribution Manager	MPDD	frwbukera@yahoo.fr	0788307260
2	Rutambika Noel	CHUB	HOD Pharmacy	rutambika@yahoo.fr	0788492525
3	Rurangwa Clement	Bugesera District Pharmacy	Director	Matonde2000@yahoo.fr	0788844647
4	Muhire Gladys	USAID DELIVER PROJECT	Logistics Advisor	gmuhire@jsi.org.rw	0788301151
5	Mutezinkwano Axelle	Nyarugenge DP	Pharmacist	Axelle1504@gmail.com	0788893689
6	Mirimo Jean	MOH/PTF	CPDS coordinator	mirijea@yahoo.fr	0788634972
7	Kabatende Joseph	MOH/PTF	LMO coordinator	josephkabatende@gmail.com	0788792286
8	Kabalisa Max	JSI	MIS/IT advisor	max@rw.pfscm.org	0788306808
9	Roche Greg	JSI	Sr Technical Advisor	groche@jsi.com	
10	Mukundwa Diane	MOH/PTF	LMIS officer	mukudiane@gmail.com	0788681523
11	Ndahinyuka Jovith	USAID DELIVER PROJECT	Logistics Advisor	jndahinyuka@jsi.org.rw	0788304505

Appendix E. Reviewed/Updated Materials

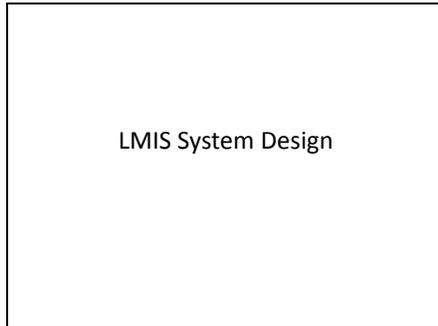
Listing of all Reviewed/Updated Materials for Roll-out of Harmonized System

- Final draft of all LMIS forms
 - Commodity Return Form-WordVersionForExercises
 - DailyConsumptionRegister(Programs)Blank
 - DailyConsumptionRegisterARVsAndTests
 - DailyConsumptionRegisterEssMedsEtcBlank
 - DailyConsumptionRegisterMalariaDrugs
 - DailyConsumptionRegisterOIDrugs
 - DailyConsumptionRegisterTB
 - DistrictRandR-ARV-OIWordVersionForExercises
 - DistrictRandR-CommHealthWordVersionForExercises
 - DistrictRandR-EssentialMedsWordVersionForExercises
 - DistrictRandR-EssMedConsumWordVersionForExercises
 - DistrictRandR-FPWordVersionForExercises
 - DistrictRandR-MalariaWordVersionForExercises
 - DistrictRandR-MentalHealthWordVersionForExercises
 - FOSA RandR-ARV-OIWordVersionForExercises
 - FOSA RandR-CommHealthWordVersionForExercises
 - FOSA RandR-EssentialMedsWordVersionForExercises
 - FOSA RandR-EssMedConsumWordVersionForExercises
 - FOSA RandR-FPWordVersionForExercises
 - FOSA RandR-MalariaWordVersionForExercises
 - FOSA RandR-MentalHealthWordVersionForExercises
 - Internal Req Form-WordVersionForExercises
 - StockCard-WordVersionForExercises
- Final draft “SOP Users Guide”
- Final draft of all roll-out training sessions
 - Session1 Ice Breaker-FinalReviewedVersionJune2012

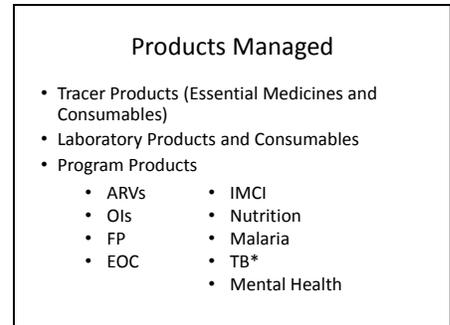
- Session2 Intro To FOSA Training-FinalReviewedVersionJune2012
- Session3 IntroToLogistics-FinalReviewedVersionJune2012
- Session4 Flow Of Products And Info-FinalReviewedDraftJune2012
- Session5 Internal Requisition_FinalReviewedVersionJune2012
- Session6 Stock Card-FinalReviewedVersionJune2012
- Session7 Storage-FinalReviewedVersionJune2012
- Session8 Physical Inventory-FinalReviewedVersionJune2012
- Session9 Daily Consumption Register-FinalReviewedVersionJune2012
- Session10 Complete R and R for HF-FinalReveiwedVersionJune2012
- Session11 R&R DP English Version.doc
- Session12 Short Shelf Life Order-FinalReviewedVersionJune2012
- Session13 Emergency Order-FinalReviewedVersionJune2012
- Session14 Commodity Return Form-FinalReviewedVersionJune2012
- Final draft of the participant workbook for the roll out trainings
- Reviewed draft of “ISO-format” SOPs
 - 1. Requesting by, Issuing to and Receiving Products into the Lab SOP-FinalReviewedDraftJune2012
 - 2. ALL LEVELS Completing the Stock Card SOP-FinalReviewedDraftJune2012
 - 3. ALL LEVELS Preparing and Conducting a Physical Count SOP-FinalReviewedDraftJune2012
 - 4. ALL LEVELS Assessing Stock Status SOP-FinalReviewedDraftJune2012
 - 5. SOPs- HC DH NRL RH requesting reporting receiving SOP-FinalReviewedDraftJune2012
 - 6. DP NBTC Requesting and Reporting SOP-FinalReviewedDraftJune2012
 - 7. DP_NBTC_Receiving R&R's & Issuing SOP-FinalReviewedDraftJune2012
 - 8. DP_NBTC NRL RH Receiving from MPD SOP-FinalReviewedDraftJune2012
 - 9. Distributing Short Shelf Life Products SOP-FinalReviewedDraftJune2012
 - 10. ALL LEVELS Placing an Emergency Order SOP-FinalReviewedDraftJune2012
 - 11. Returning Products ALL LEVELS SOP-FinalReviewedDraftJune2012
 - 12. Storage Handling of Health Commodities ALL LEVELS-FinalReviewedDraftJune2012

Appendix F. PowerPoint Presentation for Key Stakeholders

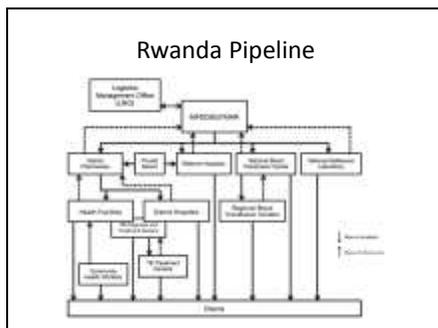
Slide 1



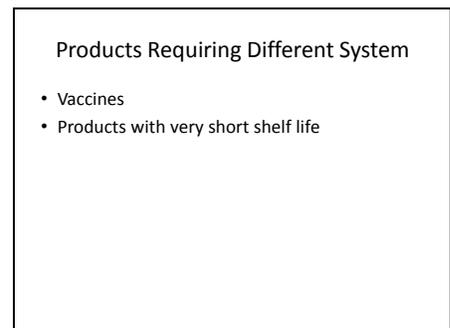
Slide 3



Slide 2



Slide 4



Slide 5

Inventory Control System

- Forced Ordering with Emergency Order Point (all levels/facilities)
- Pull system (except between Community Cell Coord. And CHWs)
- Monthly Order Interval

At the end of every month, review all stocks and order up to the maximum stock level.

If you reach the Emergency Order Point at any time during the month, place an emergency order.

Slide 8

Significant Changes

- Raising the Max-Min levels at the DP, NBTC, RH and NRL level (overall and lab-specific).
 - Reflects actual lead time and safety stock requirements (compared to the previous 2 month max and 1 month min that were set for the DP level).
- Eliminate cross-docking of ARVs at district level (DP manages stocks of ARVs and re-supplies HFs)

Slide 6

Setting Maximum-Minimum Stock Levels and Emergency Order Points

Minimum = Lead Time + Safety Stock
 Maximum = Minimum + Review Period
 EOP = longest lead time for emergency order

Level/Facilities	Lead Time	Safety Stock	Review Period	Lead time for EO
MPDD	3 months	3 months	3 months*	6 weeks
District Pharmacy NBTC Referral Hospitals NRL	1 month	1 month	1 month	2 weeks
Health Facilities RBTC	2 weeks	2 weeks	1 month	1 week

* Review Period for central level is desired shipment receipt frequency

Slide 9

LMIS: Logistics Records

- Consumption Record
 - Daily Activity Record
- Stockkeeping Record
 - Stock Card
- Transaction Records
 - Monthly Report and Requisition
 - Delivery Notes
 - Internal Requisition Voucher

Slide 7

Maximum-Minimum Stock Levels and Emergency Order Points

Level/Facilities	Maximum	Minimum	EOP
MPD	9 MOS	6 MOS	1.5 MOS
District Pharmacy NBTC Referral Hospitals NRL	3 MOS	2 MOS	0.5 MOS
Health Facilities RBTC	2 MOS	1 MOS	0.25 MOS
Total length of pipeline	14 months		

* Not applicable for short shelf-life products, which require lower stock levels and more frequent receipts at central level

Slide 10

LMIS: Logistics Reports

- Monthly Report and Requisition
 - DP/NBTC/RH/NRL to MPDD
 - HF to DP/NBTC
- Monthly Feedback Form
 - DP to HF

Slide 11

Monthly Report and Requisition

- Same format for all products*
 - Same format for all facilities re-supplied by MPDD and that re-supply lower-level facilities
 - District pharmacy
 - NBTC
 - Same format for all facilities that do not re-supply lower level facilities
 - Health centers (sent to DP)
 - RBTC (sent to NBTC)
 - Referral Hospitals (sent to MPDD and with 3 month max)
 - NRL (sent to MPDD and with 3 month max)

* Except special format for TB medicines and short shelf-life products

Slide 12

Management of TB Medicines

- Similar reporting of logistics data
- Quarterly re-order at district level; monthly re-order at facility level
- Re-order to serve existing patients plus % for safety stock

Slide 13

Management of Short Shelf-Life Products

- Direct re-supply from central level to HF

Appendix G. LMIS Forms



REPORT AND REQUISITION FORM FOR HEALTH CENTRE AND DISTRICT HOSPITAL SERIAL NUMBER _____
ARVs AND OI MEDICINES

PROVINCE

DISTRICT

FACILITY NAME

REPORTING MONTH

YEAR

ORDINARY REQUISITION

EMERGENCY REQUISITION

Name of the product	Unit	Stock on Hand at the beginning of the Month	Quantities received during the Month	Quantities dispensed during the Month	Losses and adjustments		Physical count	Number of days of stock out during the Month	Adjusted monthly consumption G = (C / (30 - F)) x 30	Maximum quantity H = (2 x G)	Order Quantity I = H - E	Quantity Issued	Quantity received
		A	B	C	D-	D+	E	F	G	H	I	J	K
ARVs													
ABACAVIR (AS SULFATE) 20MG/ML	BOTTLE												
ABACAVIR (AS SULFATE) 300MG	BOX/60 TABS												
ABACAVIR- LAMIVUDINE 60/30 MG	BOX/60 TABS												
DARUNAVIR 300MG	BOX/120 TABS												
DIDANOSINE DELAYED-RELEASE 250MG	BOX/30 CAPS												
...													
OIs													
ACYCLOVIR 5% CREAM TOPIC 5G	TUBE												
ACYCLOVIR 800MG TABLET	TABLET												
...													

Observations:

	Names	Title	Telephone number	Date	Signature
Prepared by (HF)					
Approved by (HF)					
Issued by (DP)					
Checked by (HF)					

MONTHLY REPORT AND REQUISITION FORM: DISTRICT PHARMACY LEVEL

MINISTRY OF HEALTH



REPORT AND REQUISITION FORM FOR COMMUNITY HEALTH PRODUCTS (DISTRICT PHARMACY)

SERIAL NUMBER

PROVINCE

REPORTING MONTH

ORDINARY REQUISITION

DISTRICT PHARMACY

YEAR

EMERGENCY REQUISITION

Name of the product	Unit	Stock on Hand at the beginning of the Month	Quantities received during the Month	Quantities issued to HF's during the Month	Losses and adjustments		Physical inventory at DP End of Month	Number of days of stock out at DP during the Month	Total quantities dispensed to clients during the Month by HCs	Adjusted quantities consumed by HF during the month	Maximum Quantity = (3 x H)	Order Quantity J = I - E	Quantity Issued
		A	B	C	D-	D+	E	F	G	H	I	J	K
INTEGRATED MANAGEMENT OF CHILD ILLNESS													
AMOXYCILLINE 125 MG	TABLET												
MISOPROSITOL													
ORAL REHYDRATATION SALT (ORS)	PACK												
ZINC SULFATE 10 MG	TABLET												
NUTRITION													
CSB	KG												
F 100	BOX												
F 75	BOX												
ONGERA INTUNGABUZIMA													
PAMPLY NUT (RUTF)	BOX												

Observations:

	Names	Title	Telephone number	Date	Signature
Prepared by (DP)					
Approved by (DP)					
R&R Received by (MPDD)					

ACTIVE DISTRIBUTION PACKING LIST

ACTIVE DISTRIBUTION BOX CHECK SHEET (RBCAMPDD) (SUFMAR) - Cross out where appropriate

BUGESERA		Essential Medicines	Malaria	Family Planning	TB	ARVs	Kis	Laboratory Commodities	Cold Chain	0 AT SUFMAR	1 ACT DIST LANE	2 ONTO TRUCK	3 INTO DP	4 RETURN COOL BOX
Bugesera	DP	8/10/12								8/10/12				
Nyamata	DH													
Gakurazo	HC													
Gashora	HC													
Gihinga	HC													
Kamabuye	HC													
Mareba	HC													
Mayange	HC													
Mwogo	HC													
Nyamata	HC													
Nzangwa	HC													
Rubita	HC													
Rufuha	HC													

SUFMAR RBCAMPDD

0. At SUFMAR	Checker	[Signature] [Signature]	Date	09/05/2012
1. Act Dist Lane	Checker		Date	
2. Onto Truck	Act Dist Supervisor		Date	
3. Into DP	District Pharmacist	[Signature]	Date	
4. Return Cool Box & Gel Packs	Truck Driver		Date	

BUFMAR a.s.b.l.

B.P. 716 Kigali Rwanda

Tel : 555176 / 555173

Fax : 555177

TVA : 4000481

Date : 09/05/12

Bon de livraison N°: PL003019 / 2012

Client : DISTRICT BUGESERA

Designation	Qte	Lot	Date d'exp	
-------------	-----	-----	------------	--

Boîte paracétamol 500 mg, boîte de 1000	162,00	54550	01/02/14	
Boîte paracétamol 500 mg, boîte de 1000	5,00			
Boîte paracétamol 500 mg, boîte de 1000	133,00	54551	01/02/14	

ETABLI PAR

Rwanda

POUR RECEPTION



Comptes
Banque de Kigali n° 045-004193-010000

045-5104189-22/USD

Page
COGEBANQUE N° 133-0100231-000000

For more information, please visit deliver.jsi.com.

USAID | DELIVER PROJECT

John Snow, Inc.

1616 Fort Myer Drive, 16th Floor

Arlington, VA 22209 USA

Phone: 703-528-7474

Fax: 703-528-7480

Email: askdeliver@jsi.com

Internet: deliver.jsi.com