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Logistics Management Units:

What, Why, and How of the Central Coordination of Supply Chain Management

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Abstract
Increasingly, countries have recognized the value of forming a management structure that is responsible for organizing, monitoring, and supporting supply chain activities within a logistics system—a logistics management unit (LMU). Although this may require a substantial human resource investment, it enables service providers to focus their time and energy on serving patients and permits logisticians to build stronger skills in supply chain management. This document describes an LMU, how it can be structured, the reasons for advocacy, and suggestions on how to begin. Also included are illustrations using country examples.

Cover photo: Staff in Bolivia discuss commodity management issues.

USAID | DELIVER PROJECT
John Snow, Inc.
1616 Fort Myer Drive, 11th Floor
Arlington, VA 22209 USA
Phone: 703-528-7474
Fax: 703-528-7480
Email: askdeliver@jsi.com
Internet: deliver.jsi.com

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Acronyms

ARV	antiretroviral
CMS	Central Medical Store
LMIS	logistics management information system
LMU	logistics management unit
MOH	Ministry of Health
NGO	nongovernmental organization
SDP	service delivery point
SOP	standard operating procedure
TOT	training-of-trainers
USAID	U.S. Agency for International Development

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This publication is dedicated to the many individuals from communities, nongovernmental organizations (NGOs), faith-based organizations, ministries of health, and other organizations that have consistently advocated for access to health commodities for a variety of health services. The publication is also dedicated to friends and counterparts who have worked with the USAID | DELIVER PROJECT, the Family Planning Logistics Management project, and John Snow, Inc., since 1986; and to the thousands of committed professionals in ministries of health and NGOs who work daily to supply their customers and programs with essential public health commodities.

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Sincere thanks go to the field offices of the USAID | DELIVER PROJECT and the Supply Chain Management System project in Bangladesh, Paraguay, Malawi, Tanzania, Zambia, and Zimbabwe. These lessons in establishing and strengthening logistics management units (LMUs) would not have been possible without these valuable contributions.

Executive Summary

Key to building sustainable logistics systems is recognition of and investments in the human resources and the necessary management structures required to effectively and efficiently manage these systems. A logistics management unit (LMU) is a management structure responsible for organizing, monitoring, and supporting all supply chain activities within the logistics system. Through a pattern of continuous improvement, the LMU identifies supply chain problems, develops interventions to address those problems, and implements those interventions. The LMU, typically based at the central level, should have both an operational and a strategic purpose. They are a vehicle to institutionalizing good supply chain management practices and are involved in all logistics functions, linking upstream and downstream logistics activities.

An LMU may be responsible for various functions:

- Logistics data management:
  - communicating directly with facilities for receiving, reviewing, and approving reports and/or orders; following up on missing reports/orders; and generating feedback reports for the facilities
  - aggregating, analyzing, and interpreting logistics data to produce reports on logistics system performance, which are disseminated up and down the supply chain to all appropriate stakeholders.
- Quantification:
  - conducting annual quantifications and quarterly quantification updates
  - identifying gaps in supply and mobilizing necessary resources
  - developing and managing supply plans.
- Monitoring and evaluation:
  - monitoring the supply pipeline
  - calculating routine logistics indicators and sharing information related to system performance
  - assessing stock status
  - coordinating all logistics system assessments.
- Supervision:
  - ensuring that supervision visits include logistics components.
- System design, implementation, and training

  - designing/revising logistics systems
  - developing and maintaining logistics standard operating procedures manuals and curricula
  - ensuring appropriate staff are trained in logistics system procedures.

- Coordination and collaboration
  - convening regularly scheduled coordination meetings with stakeholders involved in financing, procuring, or distributing commodities.

The structure of the LMU is key to the unit's ability to manage logistics systems. Defining the structure of the LMU includes defining the scope of the unit: what systems it will manage, where the unit will be located, and the relationship between the LMU and other public sector entities. For the LMU to strengthen the in-country logistics systems, it is vital for the unit to have sufficient staff.

Background

Unparalleled financial resources have been dedicated to providing public health commodities to developing countries and to strengthening in-country supply chains to manage those commodities. Increasing efforts are being made to establish sustainable logistics systems that are robust enough to respond to changes in the public health landscape. Key to building sustainable logistics systems is recognition of and investments in the human resources and the necessary management structures required to effectively and efficiently manage these systems.

Public sector health systems are typically organized around a vision for service provision. Historically, supply chains have been developed as an afterthought after it became apparent that commodity availability was essential to providing health services. The performance of the supply chain depends on staff that are already fully committed to other activities, usually do not have adequate logistics training, and whose responsibilities may not formally include logistics tasks. As a result, supply chain break downs, such as stockouts and product wastage are not uncommon or unexpected. In-country supply chains often lack dedicated and skilled human resources that are devoted to routine logistics management tasks, as well as the structural entities through which to organize and manage resources and operations.

Logistics management responsibilities at the central level are often dispersed among numerous program staff, offices, or locations, leading to challenges in communication and unclear pathways for resolving problems or making decisions. To increase the range and volume of commodities managed by public sector supply chains, there must be an increase in funding for strengthening staff to manage them. If no established coordinating body or mechanism for managing logistics system activities and the necessary financial resources exists, there is a risk that the funding provided may not be used efficiently. This leads to inefficiencies in the supply chain and, ultimately, will have a negative impact on customer service.

The USAID | DELIVER PROJECT has assisted national governments and other partners with supply chain interventions to ultimately increase product availability at the service delivery points (SDP). Given the multiplicity of supply chains and partners, one particular focus has been to create and develop logistics management units (LMUs). The functions, staffing, and placement of LMUs have varied across countries, with corresponding variations on impact.

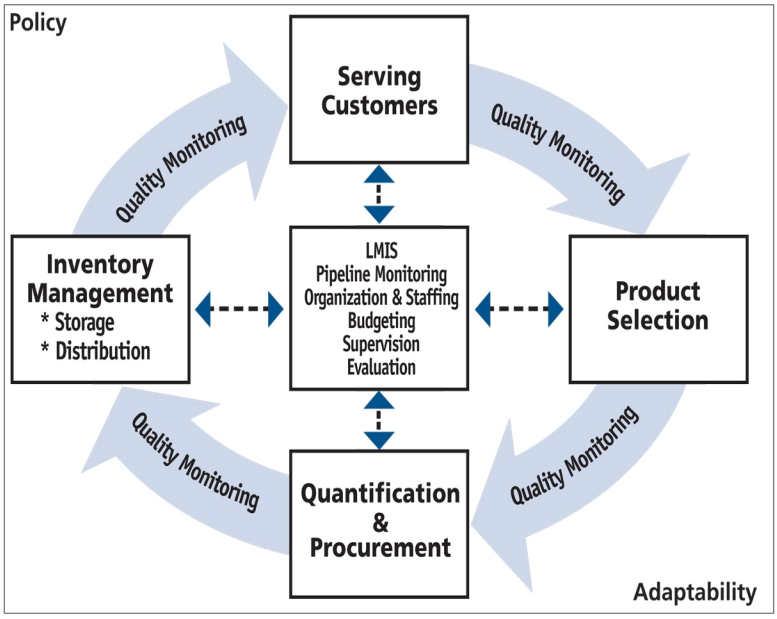
This document examines examples of LMUs and describes their structure. It also describes the logistics function activities for which an LMU should be responsible. This information can be used to help promote the establishment of an LMU that will benefit the supply chain and the customers it serves.

What Is a Logistics Management Unit?

A logistics management unit (LMU) is a management structure that can be used to organize, monitor, and support all activities within the logistics system. Through the lens of continuous improvement, the LMU identifies supply chain problems, develops solutions for those problems, and implements those interventions. Without an LMU, logistics responsibilities are scattered across programs or remain altogether unassigned and unfulfilled. A properly staffed and supported LMU ensures that resources and time are dedicated to coordinating and completing logistics activities. The LMU is an important link between the different organizations, levels, and actors within supply chains.

The LMU should serve both a strategic and an operational purpose. Strategically, the presence of an LMU solidifies supply chain management as a national priority because staff and resources are dedicated to these activities; which, in turn, benefits overall program planning and management. The LMU can be a focal point for attracting dedicated supply chain resources; it can use those resources to identify and implement prioritized logistics system strengthening activities. The LMU can manage supply chains holistically. In the case of segmented supply chains, where products for different programs may be managed differently, the LMU can provide oversight for all logistics activities, thereby reducing redundancies in management processes for multiple supply chains.

Figure 1. The Logistics Cycle



Operationally, LMU staff carry out both the routine and singular activities required to run a supply chain. LMUs are tasked with increasing visibility throughout the supply chain by sharing quality information when and where needed for evidence-based decision making, with the ultimate purpose of ensuring continuous availability of products. One of the most important actions facilitated through the LMU is managing logistics data—ensuring that logistics data is available for all who need it, from the facility level up to various units and partners at the central level.

LMU staff often perform routine logistics management functions, such as calculating resupply quantities for facilities; they are also a resource for questions from clinical staff who are

responsible for commodity management, or for help in troubleshooting supply issues, and for other stakeholders in the supply chain. Figure 1, the logistics cycle, shows the parts of the logistics cycle in which the LMU plays a role. They assist in product selection, conduct the quantifications, monitor stock levels, and manage the logistics management information system (LMIS) data. They also perform quality monitoring for all aspects of the logistics system.

LMUs postively impact product availability

In Zimbabwe, since the establishment of the Logistics Sub-Unit (LSU), stockout rates from the first line ARV drug (stavudine/lamivudine/nevirapine) decreased from 15% to 0%.

In Zambia, prior to the creation of the LMU, facility stockout rates for five indicator ARVs was 50%; by the end of 2008, the rate had dropped to less than 5%.

In addition to the routine operation of the logistics system, the LMU links the different entities and levels in the system. The LMU is the communications hub for the entire system: facility, intermediary, and central levels. The LMU plays a key role coordinating activities among different organizations and agencies involved with logistics system activities.

The LMU is the structure through which good supply chain management practices can be institutionalized. The staff of the LMU can be targeted for capacity building activities. Documenting standard operating procedures of the LMU's functions helps to ensure that procedures become part of the institutional structure for logistics, rather than being left to the individual staff.

The specific functions of LMUs are explained in more detail in the chapters that follow.

For What Functions Should an LMU Be Responsible?

The LMUs are involved, in some capacity, in activities from every part of the logistics cycle. Identifying and describing specific logistics functions that an LMU should be responsible for (which products and which supply chains) depends on the local context and the existing structures. Possible responsibilities include logistics data management, quantification, coordination and collaboration, supervision, system revision, implementation, and trainings. Regardless of the number and type of functions assigned to the LMU, local country ownership is a critical factor for success.

Logistics Data Management

Logistics data management entails the collection, review, aggregation, analysis, and interpretation of logistics data and the development and dissemination of logistics data reports. The purpose of collecting logistics data is to improve customer service (i.e., commodity availability) by improving the quality of management decisions. To make the collected data useful for decision making, it must be aggregated and analyzed, and then shared with the appropriate decisionmakers. The LMU plays a key role in sharing data with stakeholders throughout the supply chain to increase data visibility.

In Zambia, the LMU is based at the Medical Stores Limited (MSL) and plays a pivotal role in the success of the logistics system. Four data specialists receive the LMIS reports and orders from facilities for antiretroviral drugs, HIV tests, prevention of mother to child transmission commodities, laboratory commodities, and essential medicines. The unit receives reports from all facilities and processes them in a computerized LMIS, which is called the Supply Chain Manager (SCMgr). After reviewing the reports, LMU staff calculate resupply quantities and approve the orders; they then send the orders to MSL for picking and packing. The commodities are delivered to the sites. The data in SCMgr are analyzed and shared with the MOH and key partners. Every day, the LMU staff review the list of facilities that were due to report; they immediately call the non-reporting facilities and send official memos to the MOH district and provincial health offices. They generate feedback reports for each facility, which they send with the facility orders.

In their role as a central coordinating body for logistics functions, the LMU manages logistics data, one of its core functions. In addition to a core team at the central level, LMU staff may be placed at intermediary levels; therefore, the logistics data management functions may be at both the central level and any intermediary levels (district, province, etc.). The LMU receives the data from the facilities and shares data with the appropriate stakeholders throughout the supply chain.

If data are submitted from the facility, the LMU's responsibilities may include the following:

1. Receive, review, and approve facility reports and/or orders.

The LMU should ultimately receive all facility reports (and/or aggregated reports from the intermediary levels). Routine logistics reports/orders contain the essential data necessary for supply chain decision making and are a primary means of communication between the SDP and the LMU.

A careful and thoughtful review of LMIS reports/orders is critical to ensure that data contained on the reports/orders are of high quality, to discover problems SDPs may be having in terms of reporting data, and to respond to any questions from an SDP about the report/order.

2. Prepare the orders for picking and packing from the warehouse.

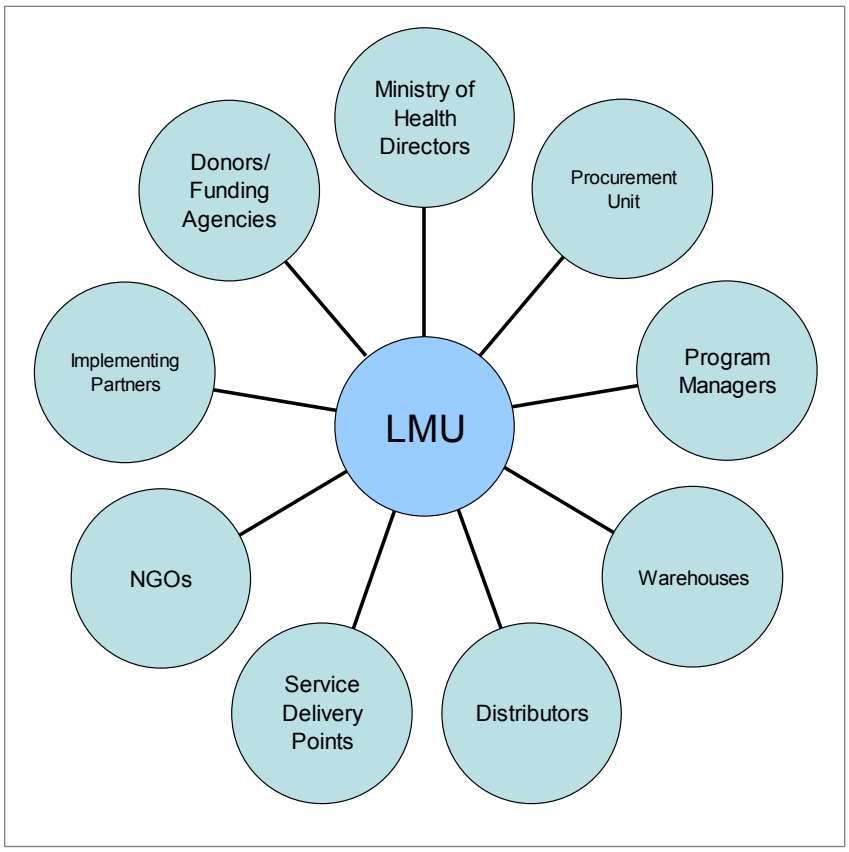
In many cases, particularly if the LMU is physically located at the warehouse, LMU staff are responsible for submitting the approved order quantities to the warehouse staff so that the supplies can be picked and packed. This can be done through an automated system or by paper. LMU staff monitor the time it takes for the warehouse staff to prepare all of the resupply quantities.

3. Follow-up on missing reports and/or orders (phone/email/short message service(SMS)/fax).

Low rates of LMIS reporting are a common problem for many logistics systems. LMU staff can be instrumental in improving the reporting rates by following up directly with SDPs to obtain the missing forms. For example, in Zambia the reporting rate in the ART logistics system increased to 100% due to the actions of LMU staff. If LMU staff consistently follow-up with missing reports, the SDP staff will be encouraged to submit their reports/orders on time. LMU staff will be able to evaluate the quality and consistency of the reporting.

4. Prepare routine feedback reports for facilities that are based on the reports received by the facility.

Figure 2. The Reach of the LMU



Feedback is an important, though often overlooked element, for a strong LMIS. Providing feedback to facility staff improves their capacity to do fulfill their responsibilities and to do them correctly. Feedback also provides motivation and recognition of each staff member as a valued contributor to the functioning of the system as a whole.

In addition to receiving data from the facilities, the LMU collates and presents data for decision making throughout the supply chain. Figure 2 shows the relationship between the LMU and various decisionmakers. As shown, these decisionmakers could be divisions within the public sector, such as Ministry of Health, government procurement units, warehouses (such as the Central Medical Stores [CMS]), or distributors (if third party logistics are being used). Other donors, funding agents, implementing partners, and nongovernmental organizations (NGOs) can also be decisionmakers within a system. Improving visibility by communicating logistics data to all levels of the system is a key function of this unit.

The responsibilities include—

1. Manage central-level tools for logistics.

To produce reports on logistics system performance, the reported data must be entered into a computerized or automated tool that aggregates and analyzes the data. Tools include several different options for use as a computerized LMIS. The LMU is responsible for maintaining and managing all relevant tools. This includes identifying needed improvements to the tools, ensuring that the LMU has the capacity to use the tools, and managing all supporting documentation for the tools.

2. Generate logistics system progress reports for MOH and partners.

The tool selected and implemented for the logistics system should include as outputs reports to disseminate for the MOH and other partners. These outputs are possible by aggregating and analyzing the data contained on the routine LMIS reports submitted by facilities. These central-level reports often contain information on trends in consumption, national stock status, percentage of facilities reporting, and percentage of facilities experiencing a stockout. These reports should be used to identify overall logistics system weaknesses or issues to inform overall program planning and management, as well as logistics system improvements. These reports also provide logistics data necessary for decision making up and down the supply chain: by level (central, province, SDP) and by type (government divisions, implementing partners). When used appropriately, feedback reports can also identify logistics system strengths and areas for improvement.

In Zimbabwe, the Logistics Sub-Unit (LSU) manages a central level, automated LMIS called Zimbabwe Information System for HIV & AIDS Commodities (ZISHAC), which is used for aggregating and analyzing reported logistics data. Data from all LMIS reports are entered into ZISHAC, and reports and graphs are produced on national stock status, consumption, and stockout data. These reports are shared with all relevant stakeholders at regularly scheduled meetings.

Quantification

One significant use of logistics data is to inform quantification exercises. Quantification is a critical supply chain activity that links information on services and commodities from the facility level with program policies and plans at the national level. Quantifications are used to inform higher level decision making on the financing and procurement of commodities, providing the information on how many of which products should arrive in the country at what time. The quantification process consists of forecasting the quantities of commodities that are expected to be dispensed to/used by clients, and then determining the quantities of commodities that should be procured for the program as a whole. Quantification results can be used to help maximize the use of available resources for procurement; advocate for mobilization of additional resources, when needed; and inform manufacturer production cycles and supplier shipment schedules.

Bangladesh has established a forecasting/logistics coordination forum under the chairmanship of the Director General; forecasts are regularly reviewed and used to prepare procurement plans.

The LMU is the structure responsible for conducting quantifications; however, other types of people are consulted during the process. These people may include: policymakers, program managers, clinical and pharmacy staff, and service providers. The LMU identifies the relevant people and secures their participation.

As part of the quantification process, specific functions that the LMU may be responsible for include—

1. Conduct annual quantifications and regular updates of commodity requirements and costs.

LMU staff conduct quantifications for the commodity groups for which they are responsible. Quantification is not a one-time, annual event that ends when the final quantities and costs have been determined. One of the outputs of a quantification exercise should be an implementation plan for routine monitoring, reviewing, and updating the quantification at least every six months for more stable, well-established programs, and more often if key data and assumptions change or the volume of services and commodity use differs greatly from the forecasted demand for services and consumption. The LMU also routinely monitors the national supply pipeline (see section on Monitoring and Evaluation for more information).

2. Identify potential gaps in supply and mobilizing resources, as necessary.

As part of the quantification process, LMU staff forecast the quantities of products required for a specified time period, determine the costs of those products, and compare those costs to the funds available. If funding is insufficient, the LMU determines whether additional resources can be mobilized, and they works with various government agencies, partners, and donors to determine whether funding gaps can be filled. An effective venue for this can be by presenting the quantification results. The LMU updates the amounts and timing of funding commitments from all partners and helps to ensure that funds are available when they are needed.

3. Develop and manage supply plans.

A supply plan details the arrival dates and quantities of shipments from all suppliers. LMU staff manage the information regarding supply plans from various suppliers to public sector programs. For each supplier, the LMU manages information on pack sizes, prices, and lead times.

To ensure continuous supply and maintain desired stock levels, LMU staff also verify with suppliers the estimated arrival dates of shipments, and they update as necessary. The LMU may be responsible for ensuring that all the appropriate documentation has been obtained to ensure efficient clearance through customs upon arrival of the products in the country. LMU staff may need to ensure that products are registered with the appropriate local regulatory authorities and ensure the quality control inspection and testing of products is done as required.

In Zimbabwe, the Upstream Logistics Coordinator (ULC) is a key position within the Logistics Sub-Unit. This position is dedicated to managing supply plans for various suppliers and donors. The ULC coordinates the arrival of commodities among donors and partners; the coordinator identifies additional shipments and quantities needed to ensure a continuous supply of commodities.

Monitoring and Evaluation

The LMU monitors the performance of the logistics system and disseminates the information to necessary stakeholders. Because the goal of the logistics system is to provide commodities whenever and wherever they are needed, it is important to monitor the progress of programs and logistics systems to reach that goal. As part of its monitoring and evaluation activities, the LMU carries out the following activities:

1. Monitor and share data on routine indicators.

By analyzing logistics data, the LMU can identify issues and trends that affect commodity availability and use that information to design system strengthening activities. As discussed in the section on logistics data management, the LMU generates and disseminates logistics system progress reports to necessary stakeholders, and uses the reports for program planning and implementation. To monitor the system, routine indicators can be calculated, if the system has been designed to enable such calculations.

Indicators may include—

- *Reporting rates:* Percentage of facilities that submitted a report during a designated reporting period.
- *Average lead times:* On average, the time it takes from when a facility places a report/order to when the goods are received and available for use
- *Stockout rates:* Percentage of facilities experiencing a stockout (by product)
- *On-time delivery rates:* Percentage of facilities receiving a delivery as scheduled
- *Order fulfillment rate:* Percentage of facilities that had their complete order filled by the supplying facility.

By regularly calculating and sharing agreed-upon logistics performance indicators, all relevant parties have the same understanding as to the fitness of the logistics system; and they can agree on what areas of improvement should be explored.

2. Assess stock status and share information/results.

Based on product consumption and stock levels throughout the system, the LMU determines the national stock status, and then uses the results for decision making. In a system with more than two levels, the LMU calculates the stock status for each level in the system. By seeing the stock status at each level, the LMU can tell whether one level is overstocked while another is understocked; they can shift products around, as necessary. At a national level, monitoring the stock status enables the LMU to take action across stakeholders as to when shipments should arrive in country or when resources need to be mobilized for procurement. Understanding stock status at all levels is important to managing the national logistics pipeline.

In Tanzania, supply chain management advisors (SCMAs) are located at each zonal store of the Medical Stores Department. They provide support and on-the-job training, as required, to health facilities within the zone. The goal is to increase reporting rates and logistics data quality as SCMAs follow-up directly with facilities if reports are not received.

3. Periodically assess the logistics systems.

In addition to ongoing monitoring of the system, the LMU plans for, coordinates, and implements periodic evaluations of the supply chain. By assessing the system's strengths and weaknesses as part of an evaluation, opportunities for interventions can be identified and prioritized. Determining the purpose and scope of the evaluation will determine whether the assessment should be primarily quantitative or qualitative.

The purpose of conducting an evaluation, in addition to the ongoing monitoring of the system, is the ability to calculate different and broader indicators to measure performance. For example, the Logistics System Indicators Tool, used in quantitative assessments, requires facility visits. By visiting the facility, the assessment team has access to information beyond what is contained in their routine logistics report. Data can be gathered to calculate indicators relating to acceptable storage conditions, accuracy or logistics recordkeeping, and stockouts on the day of visit. An assessment or evaluation could result in a recommendation to modify or redesign parts of the logistics system.

The LMU garners support and resources from all necessary partners for any evaluation activity. By ensuring that the scope of the exercise is clear and agreed upon, and providing timely results from assessments, partners stay engaged in the long-term process of improving logistics systems and to the concept of continuous improvement.

Supervision

Supervision is an important component to strengthening logistics systems. Supervision is the process of ensuring that personnel have the knowledge and skills required to carry out their responsibilities effectively, and to provide immediate on-the-job training, as needed. Logistics personnel should be supervised, for the following reasons:

- to ensure that they have the knowledge, skills, and materials to correctly and consistently fulfill their designated responsibilities in the logistics system
- to identify weaknesses in performance and to improve performance by providing on-the-job training, as needed
- To ensure that established logistics guidelines and procedures are being followed.

Depending on the situation in the country, LMU staff may conduct supervision of facilities directly, or they may provide input to other types of staff who conduct comprehensive supervision, such as providing technical input, or developing and monitoring supervision schedules. Whether LMU staff conduct supervision directly or not, the LMU ensures that logistics supervision of facilities is happening on a regularly scheduled basis.

Specific responsibilities of supervision include the following:

1. Develop, manage, and update logistics supervision guidelines/checklists.

Some programs have supervision structures and/or guidelines solely dedicated to logistics. Other programs have integrated the supervision guidelines for logistics tasks with other supervision guidelines, such as those focused on patient management or quality of care. Whether logistics supervision guidelines/checklists are a stand-alone document, or part of larger health facility supervision checklists, the LMU ensures that guidelines/checklists exist, are used, and are updated, as necessary.

2. Identify and prioritize facilities most in need of a supervision visit.

Since the LMU reviews the LMIS reports that each facility submits, LMU staff are well suited to identify which particular facilities are having logistics problems, such as the correct completion of LMIS reports, or the submission of reports on time or at all. Many times, facilities can make comments on their LMIS report that may indicate to LMU staff that a supervision visit is needed.

3. Ensure supervisors are trained on how to provide site-level supervision on logistics.

As explained above, LMU staff may or may not directly conduct facility-level supervision on logistics. In any case, the person who is designated to do the supervision needs to be trained on the supervision guidelines. As the LMU manages and updates supervision guidelines, they can also manage the training curriculum on those guidelines. As there is, undoubtedly, turnover in staff, the LMU identifies when additional trainings are needed and who participants in the training.

4. Develop, implement, and monitor schedules for supervision.

Supervision guidelines should include information on who should conduct supervisory visits and when the visits should be conducted; they should also explain how to use the tools to conduct a supervisory visit. If LMU staff are conducting the supervision, then they should adhere to the schedule; if others outside the LMU are conducting the supervision visits, a mechanism should be established so that the LMU can get feedback on the progress and results of the supervision visits.

Supervisors should ensure that health facilities are able to serve customers. Logistics activities should be monitored regularly to ensure that assigned activities are being completed on time and completed correctly. The LMU uses information obtained from supervision visits to inform further logistics system activities and to advocate for resources to support supervision.

Distribution

A sound distribution system will help ensure that products reach the client at the right time and in usable condition, with minimal loss or waste. Transportation must be available whenever it is needed to fill regular or emergency orders. For some countries and programs, the Ministry of Health or the CMSs are responsible for the transportation of commodities. For others, distribution has been outsourced to private companies. Regardless of the type of distribution system used, procedures should be in place to monitor and document the movement of commodities from the upper levels to the lower levels.

For distribution, LMU responsibilities may include—

1. For systems where facilities receive direct deliveries, monitor and investigate discrepancies between quantities supplied by the issuing facility and quantities received by the receiving facility.

Transaction records track the movement of stock from one facility to another, and serve as proof of delivery at the SDP. The LMU collects and manages proof of delivery data; they track any discrepancies between the quantities supplied and quantities received. In the case of discrepancies, the LMU follows-up with the supplying facility and the receiving facility to determine the cause and any corrective action needed.

2. Ensure adherence to the delivery or resupply schedule.

To enable commodity availability, commodities must arrive at the SDP at the right time. As part of the system design, a delivery or resupply schedule should be established. The time that it takes for a

requesting facility to receive supplies, from the time an order is placed (the lead time), is a critical factor on which virtually all other system parameters are based. Although the LMU may not conduct deliveries directly, the LMU works with the transportation agent to ensure adherence to the set delivery schedule. In systems where it is the facilities' responsibility to travel to the issuing facility to collect their supplies, the LMU ensures that the facility is able to collect the resupplies, as scheduled.

3. If outsourcing distribution, manage contracts with the private companies and monitor performance.

For many countries and programs, outsourcing distribution can make more sense than conducting the distribution directly through public sector entities. The LMU develops and manages performance-based contracts with private companies and monitor their performance. These private companies must conduct on-time deliveries, maintain product quality, and obtain proof of delivery from SDPs; the LMU can directly monitor each of these activities.

Logistics System Design, Implementation, and Training

A well-designed logistics system is fundamental in providing a continuous supply of good quality health commodities throughout the health system. The design of a logistics system involves developing a complementary LMIS (e.g., tools and processes for managing information), inventory control system (e.g., stock levels and procedures for resupply), and procedures for storage and distribution. Although complete logistics system designs happen infrequently within one country, the LMU directs overall logistics system design activities. One result from an assessment may be a recommendation to modify or redesign certain elements of the existing system. The LMU identifies the necessary participants for the system design workshop, manages the logistics for the workshop, and finalizes all system design decisions.

The process does not end once a system has been designed; the system must be implemented.

For implementation, LMU responsibilities may include—

1. Develop and maintain standard operating procedure (SOP) manuals.

An SOP manual fully documents the system as it was designed. The SOP manual provides instructions about how to use the system, including completing the forms, properly storing commodities, roles and responsibilities of all individuals in the system, and returning products. It is intended for staff with logistics responsibilities in carrying out these activities. Any time a change is made to the design of the logistics system, the SOP manual must be updated and the updates must be disseminated to necessary staff.

2. Ensure appropriate staff are trained on the system.

Curricula are developed based on the SOPs, which are used to train staff on how to use this tool to accomplish their logistics tasks. The LMU manages and updates the curricula associated with the SOP manual. Assuming a cascade training approach for the initial system rollout, master trainers attend a training-of-trainers (TOT) workshop to learn how to use this curriculum. Often, LMU staff are trained as master trainers. Following the TOT, master trainers then facilitate trainings for a large number of staff throughout the country. The training of facility-level staff is not necessarily completed by LMU staff; staff from other partners or other divisions within the MOH may conduct the trainings.

Typically, after the initial rollout of the system, more trainings will be needed, over time, because new facilities may open up, or exiting staff may leave their positions for any number of reasons. Whether the LMU actually conducts the training or not, the LMU maintains a training database with details of past trainings (including the participants' names and designations), determines when a new training is needed, ensures all necessary training materials are updated and ready for use, and secures the necessary financial and human resources for conducting the trainings.

Coordination and Collaboration

Increased numbers of stakeholders involved in financing, procuring, and distributing commodities for public health programs can be a positive indication of greater commitment and more significant resources for the program. Stakeholders and funding sources often bring to the table different program impact goals and strategies to achieve those goals, are held to different rules and regulations about what can be purchased, and use different procurement and distribution mechanisms, all of which increase the complexity of maintaining a continuous supply of commodities. The risk of gaps or redundancies in supply is high if coordination of procurements between the partners is not carefully managed. At the SDP, the reporting burden for health facility staff can be reduced by coordinating reporting requirements and implementing one logistics reporting system.

In Zimbabwe, the Ministry of Health and Child Welfare has established the Procurement and Logistics Sub-Committee (PLS). Partners gather monthly to coordinate and collectively manage the HIV and AIDS commodity pipelines to ensure that there are no stockouts, expiries, or other logistics problems. The PLS is also a platform for sharing experiences and ideas in the proper management of commodities and for overseeing the overall security of HIV and AIDS commodities.

LMUs can play a key role in coordinating these different stakeholders through a variety of activities, including—

1. Coordinate different actors in the system

The LMU plays a key coordinating role between different organizations and agencies involved with logistics system activities. The multiplicity of stakeholders providing products or support for logistics system strengthening activities requires a strong coordinating body to help ensure the best use of resources. As a focal point for attracting resources for logistics activities, and providing relevant information about the performance of the logistics system, the LMU helps to ensure coordination between the Ministry of Health (including its various departments involved in logistics), the CMS, and other partners and donors.

The LMU coordinates all logistics activities within a program or country, including the management, production, and sharing of logistics data; quantifications; supervision; system design and implementation; and overall system monitoring. To effectively manage these activities, the LMU must coordinate donor inputs, particularly the activities donors and partners decide to fund and implement. The LMU prepares a list of system strengthening activities, prioritizes them, and proposes the appropriate ones to donors and partners for support.

In Zambia the logistics coordinating committee, the Procurement Technical Working Group (PTWG), is chaired by the Permanent Secretary of the MOH, demonstrating the authority given to this group. The PTWG meets every other week; attendees include representatives from the MOH, donors, and implementing partners involved in the procurement and logistics of health commodities in the Zambian public sector.

2. Provide leadership and support to logistics coordinating structures

The LMU convenes a regular forum that brings together key supply chain stakeholders with the explicit purpose of coordination, communication, and collaboration in all aspects of supply chain decision making and management. Such a forum is instrumental in effectively managing commodity-related resources across the programs and in ensuring that continuous product availability remains a priority, despite the complexities within and across supply chains. Experience from different models has demonstrated that these kinds of committees are most effective when membership includes MOH managers, donors, and implementing partners that are empowered to make decisions and are committed to maximizing product availability by quickly addressing supply chain–related issues.

The LMU is responsible for providing the relevant information to guide national-level decision making at this forum. The committee should have the authority to take action and to make important national-level supply chain decisions, such as swapping of stocks and advancing or delaying planned shipments to prevent stockouts and avoid expiries. As such, this committee is an important strategic mechanism for implementing supply chain interventions that will maintain an efficient and effective supply chain.

Key Activities of a Logistics Working Group:

- Share information and update all members on the status of planned shipments and the stock status (months of stock on hand) of all specified commodities in-country.
- Plan, coordinate, and review the annual quantification exercise and the six-month review; update the quantification data inputs, assumptions, and results.
- Verify the amounts and timing of funding commitments for procurement of commodities each time the quantification is reviewed and updated.
- Coordinate resource mobilization efforts for the procurement of commodities, when needed.
- Identify needs for continued technical capacity building in supply chain management; make recommendations and advocate for resources and technical assistance, when needed.
- Develop solutions for common supply bottlenecks or challenges, such as negotiating stock loans or swaps between different supply chains; and advancing or delaying shipments from suppliers to avoid stockouts and expiries.

How Is an LMU Structured?

LMUs have the potential to significantly strengthen in-country supply chains. Developing a thoughtful and sound structure for the LMU is critical to reach that goal. The structure encompasses elements, such as location of the LMU, the relationship of the LMU to other public sector stakeholders, and the number and kinds of staff that are part of the LMU. The structure of the LMU should be shaped by logistics functions they are expected to fulfill (and for which commodities and supply chains), as outlined in the previous section.

Where Should the LMU Be Located?

Where the LMU should physically be located depends on the logistics system(s) in the country and the functions the LMU will serve. Because of the coordination role played by the LMU, it is critical for the LMU to be headquartered at the central level. In many countries, the central level is the only place where LMU staff are found.

In a multi-tier system, staff members can be based at zonal, regional, or provincial levels—they improve communication and interaction with lower-level facilities and provide supportive supervision to facility staff.

In Zambia, there are seven provincial offices; staff have logistics monitoring and supervision responsibilities. At each of these offices, there is one public health logistics advisor, one logistics officer, one administrative/finance staff, one staff for information technology, and one driver. Though not explicitly part of the LMU, these provincial advisors supervise facilities and provide on-the-job training, coordinate formal trainings, and receive copies of the facility feedback reports.

Given the logistics data management role assumed by the LMU, it often makes sense for the LMU to be located near health commodities. This is particularly true if LMU staff are responsible for approving order quantities and sending approval to warehouse staff for picking and packing. LMUs are often physically situated at the central warehouse; in some cases, field staff for the LMU can be placed at zonal, regional, or provincial levels. This may address some of the coordination issues that were discussed in previous sections of this manual.

What Is the Relationship between the LMU, Ministry of Health, and Central Medical Stores?

The relationship between the LMU, Ministry of Health, and CMSs will vary by country. As mentioned earlier, the LMU may physically be situated at the central warehouse and/or intermediary levels (such as district or province). However, administratively, the LMU can be under the Ministry of Health. In some countries, the CMS is part of the Ministry of Health.

While the Ministry of Health often owns and pays for the drugs, the CMS stores and distributes the drugs. The kinds of information that the Ministry of Health may need to know can be different from the kinds of data required by the CMS. For example, the CMS may be most concerned with order quantities and fill rates, while the MOH may be most interested in aggregate consumption, stock on

hand, and months of stock. The CMS has little incentive for calculating or managing that type of data because it is outside their mandate and does not support their primary role in the public health supply chain.

The LMU can bridge the data management needs and act as a liaison between the CMS and the MOH. By reviewing reports, vetting orders, and approving resupply quantities, the LMU ensures that the CMS is receiving quality data, in terms of order quantities. The LMU, conducting forecasting and quantification, are able to inform the CMS of the volume of commodities that are expected, and expected arrival dates, so they can prepare the necessary space. For the MOH, the LMU can provide critical program management information on consumption trends, national stock status, stockout rates, and loss rates.

How Many and What Kinds of Staff are Part of the LMU?

The number and type of staff needed for an LMU depend on the mandate of the unit and the activities for which they are responsible. The number of facilities, the type of logistics system and level of complexity, and the range of commodities managed will also impact the number of staff needed. The greater the number of facilities and the larger the range of commodities managed, the more staff positions will likely be required. Types of positions may include data entry clerks, data analysts, LMIS managers, laboratory specialists, logistics officers, and others.

Zimbabwe Logistics Sub-Unit Staff

Based at the central medical stores—

- Logistics Sub-Unit Manager
- Upstream Logistics Coordinator
- Logistics Officers–4
- Data Analyst
- Data Encoder
- Administrative Assistant
- truck drivers–3
- drivers–3

Additionally, a supply chain management coordinator, based at the Ministry of Health, ensures collaboration on logistics functions across various offices, including HIV treatment, preventing mother-to-child transmission, tuberculosis, and HIV counseling and testing.

The logistics officers have divided the work so that they each have geographic responsibilities and act as a liaison for donors.

Staff responsibilities can be divided in several ways. For communication with and support to facilities, a common way of dividing responsibilities is by geography: a logistics officer or advisor is responsible for all facilities within a catchment area. Another way of dividing responsibilities is along commodity category, where a logistics officer or advisor is responsible for all logistics activities within that specific commodity group or type. Depending on how the partners have agreed to provide support to the national program, a third option is to divide responsibilities among partners, where a logistics officer or advisor is responsible for managing a partner. These various ways of dividing responsibilities are not mutually exclusive, i.e., some logistics officers can have responsibilities for facilities in specific geographical areas, and some can be dedicated to managing the inputs of a specific partner.

Sufficient staff need to be dedicated to managing logistics data at the appropriate levels. To coordinate and ensure routine data management and related activities, a key position within the LMU is an LMIS Manager. If the LMU is responsible for managing more than one supply chain, each supply chain should have an LMIS Manager.

As logistics systems mature, and as the skills and capacity of the LMU to manage systems improve, the scope or mandate of the LMU may expand. Training needs and professional development opportunities for staff should be identified and met. The need for additional staff positions may emerge, particularly if the LMU will manage new commodity groups or supply chains. In the spirit of continuous improvement, program managers should look for steps that can be taken to improve the overall performance of the LMU.

Logistics Management Unit in Paraguay

In Paraguay, the LMU is one of five operational units directly under the Office for Management of Strategic Health Commodities, which is under the Ministry of Public Health and Social Welfare. The other units include the Medicines Planning and Selection Unit, Administration Unit, Rational Use of Medicines Unit, and the Biomedical Equipment Unit. All the units in the Office for Management of Strategic Health Commodities have some logistics responsibilities. There are 58 operational staff in the Office for Management of Strategic Health Commodities; of these, 14 logistics unit staff are located at three warehouses. The office manages all essential medicines, medical supplies, and biomedical equipment. Functions for the units include, but are not limited to the following:

- The Medicines Planning and Selection Unit conducts quantifications, develops procurement plans, updates the Essential Medicines List, and manages supplier contracts.
- The LMU is responsible for shipment verification, inspection, and reception; physically storing the commodities; distributing the commodities directly to facilities; and coordinating and managing logistics data on consumption and stock levels.
- The Administration Unit coordinates disbursement of financial resources based on strategic commodity needs, issues purchase orders, and documents all procurement processes.
- The Rational Use of Medicines Unit ensures product selection according to standard treatment guidelines, monitors and oversees good prescribing practices and adherence to standard treatment guidelines, and conducts pharmaceutical surveillance.
- The Biomedical Equipment Unit plans for procurement and replacement of biomedical equipment at health facilities, conducts medical equipment inventory, and proposes innovations in technology to appropriate stakeholders.

Where Do I Start?

Historically, logistics management tasks have been added to the responsibilities of existing, yet already overworked, staff. Establishing an LMU requires relevant partners to recognize and invest in the human resources necessary to manage logistics systems efficiently and effectively; therefore, buy-in from stakeholders must be cultivated. In most cases, it is helpful to obtain commitment for the establishment and support of the LMU from the highest levels of the Ministry of Health and from the CMS. Securing support from these high levels demonstrates the recognition of the potentially significant impact of an LMU; and sets a tone for other partners, divisions of the Ministry of Health, and the CMS as to the value that is placed on the work of the LMU. In Zimbabwe, the Ministry of Health and Child Welfare established the position of Supply Chain Coordinator, on par with other coordinators such as ART and PMTCT, to make supply chain visible at a high level within the Ministry. In Zambia, the LMU has been instrumental in decreasing the percentage of facilities

experiencing a stockout of key ARVs from approximately 50 percent in 2007 to less than 5 percent at the end of 2008.

To begin this process of obtaining support, the requirements of the LMU must be outlined; then the necessary resources can be mobilized. In some cases, an assessment of the capacity of existing positions and structures responsible for some logistics functions must be completed, and the needs for an LMU can begin to be outlined. In cases where funding is limited, the scope of the LMU must be narrowed so that the expectations are correctly managed, and that the LMU can actually meet the responsibilities that are defined. For example, it is impossible for one person to do all of the aspects of the LMU outlined in this document. Depending on the resources available, the responsibilities expected of the LMU must be appropriate to the level of support provided and secured.

A critical first step is defining the scope of the LMU, including the following aspects:

- The functions that the LMU will serve

This document lists key functions that LMUs often serve—forecasting and quantification, system design and implementation, and logistics data management. There are many variations of LMUs; the scope needs to be adapted to the local context. For example, all LMUs do not necessarily calculate or approve resupply quantities. Reaching consensus on the scope of the LMU is critical to managing expectations, as well as helping to ensure the success of the LMU.

- Number of systems and range of commodities to manage

In many cases, there are multiple logistics systems in a country, often along programmatic lines. For example, there may be distinct logistics systems for antiretroviral (ARV) drugs, family planning commodities, and essential medicines. Stakeholders should agree on which system(s) the LMU should support, at least initially. This does not mean that other systems cannot be added in the future. For example, in Zambia, following the design of the National Laboratory Commodity Logistics System, lab commodities were added to the existing LMU, and additional officers were assigned to oversee the management of this system and its commodities.

In Zimbabwe, the LMU was originally established to support the ARV drug logistics system. The LMU assumed most of the responsibilities outlined in this document, notably the management of LMIS data and creation and dissemination of LMIS feedback reports showing the system performance. This significantly increased the visibility of data throughout the supply chain, and resulted in informed decision making. Recognizing this, the Ministry of Health and Child Welfare has increased the scope of the LMU to include the essential medicines system. Additional staff have been hired to respond to the increase in scope.

In the case of segmented supply chains, where products for different programs may be managed differently (for example, storage and distribution are not the same for every kind of commodity), the LMU can provide oversight for logistics activities across these segments, thereby reducing redundancies in the management process for multiple supply chains. However, when first establishing an LMU, it is critical to ensure that the structure is not overwhelmed by a scope that is too ambitious. Securing sufficient human resources for a defined system is important.

- Where the LMU should be located, and the relationship between the LMU, the CMS, and the MOH

Depending on the scope of the LMUs, they may be placed at intermediary levels or only concentrated at the central/national level. They may be physically located at the warehouse or have offices in Ministry of Health buildings. Part of building agreement on the scope of the LMU is to clarify the relationship between the LMU, the CMS, and the MOH.

- Number of staff positions to be filled

By defining the above aspects, the number and type of staff positions can be identified. It is crucial not to underestimate the level of work required by an LMU, or to under-resource the LMU in terms of staff positions. An organizational chart should be created and shared with partners for consensus.

There is no easy answer as to when an LMU should be started. During a logistics system design workshop, design parameters are established and roles and responsibilities of staff at various levels are defined. It can be helpful to determine at that same time the number and type of staff necessary to manage the system. However, if a system has already been designed, the number and type of staff needed can still be determined.

Conclusion

Well established LMUs with dedicated, full-time staff can have a lasting impact on the supply chain, resulting in significantly improved commodity availability and overall logistics system performance. To maximize customer service based on the resources available, the LMU strives for seamless linkages between the different levels, organizations, and functions within a supply chain. This includes increasing the visibility of data up and down the system, facilitating greater coordination between various stakeholders and levels, and better connecting demand with supply by conducting data-based quantifications. As a focal point for coordination, the LMU is involved in virtually all supply chain activities and system strengthening interventions. LMUs require significant and sustained investment in order to fulfill their designated logistics responsibilities.

Appendix A

Sample LMUs

		Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
Where is it located?	National Pharmaceutical Company (central warehouse)	Medical Stores Limited (central warehouse)	Directorate General of Family Planning office and central and regional warehouses	Ministry of Health and central warehouses (3)
Who is it under? **Zimbabwe**	Ministry of Health, AIDS & TB Programme	Ministry of Health	Ministry of Health and Family Welfare, Directorate General of Family Planning	Ministry of Public Health and Social Welfare, Office for Management of Strategic Health Commodities
What commodities do they manage?	• ARV drugs • Cotrimoxazole and fluconazole • TB laboratory commodities Upstream functions for— • TB drugs • HIV tests • PMTCT commodities	• ARV drugs • HIV tests • PMTCT commodities • Laboratory commodities • Essential drugs (including family planning and malaria)	• Family planning • Reproductive health • Information, education, and communication materials	• Essential medicines (including contraceptives, condoms, TB drugs, antimalarials, and others, but no HIV/AIDS commodities) • Medical supplies • Biomedical equipment
How many staff/what positions?	• LSU manager • Upstream logistics coordinator • Administrative assistant • Data analyst • 4 logistics officers • 3 drivers • 3 truck drivers	Central level: • 4 data specialists • 1 senior technical officer • 1 lab technical officer • Provincial level (7 offices) Provincial level (not directly part of LMU, but supported by projects)	Central level: • Director • 3 deputy directors • 4 assistant directors • 7 support staff Total warehouse staff (central and regional):	1 general director 1 coordinator 5 unit directors 58 operational staff: 2 document center 1 logistics: assistant 4 logistics: stock control and

	Zimbabwe	Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
		• 1 logistics advisor • 1 logistics officer • 1 administration/ finance officer • 1 IT staff • 1 driver	• 270	warehousing 2 logistics: distribution 14 logistics: central warehouses 5 planning and rational use of medicines 9 monitoring and evaluation 3 information systems 9 biomedical equipment 1 human resources 3 administration 3 legal and technical staff 2 other support staff

	Zimbabwe	Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
What logistics functions are they responsible for?	• Manage the central level computerized LMIS (ZISHAC) • Manage the PipeLine database • Receive, review, and approve LMIS reports/orders for ARV drugs and fluconazole, and TB lab commodities • Generate feedback reports for ART facilities • Aggregate and analyze data • Generate routine logistics system performance reports and sending to stakeholders • Monitor overall functioning of logistics system • Provide logistics support and supervision of ART facilities/TB diagnosing sites • Distribute commodities and verify proof of delivery to facilities • Conduct forecasts and quantifications (quarterly) • Convene coordination groups, including the Procurement and Logistics Sub-Committee • Maintain and update SOP manuals, training	Central level • Manage the central level computerized LMIS (Supply Chain Manager) • Manage PipeLine databases • Receiving, reviewing, and approving reports/orders • Calculate resupply quantities • Generate feedback reports for facilities • Aggregate and analyze data • Generate routine logistics system performance reports and sending to stakeholders • Monitor overall functioning of logistics system • Develop calendar of supervision (can also conduct supervision but primary role is to prioritize facilities for supervision) • Provide information for quantification—participate in meetings Provincial level	All logistics functions, including— • Conduct forecasts and quantifications • Warehousing and storage (1 central warehouse, 3 large regional warehouses, and 17 smaller regional warehouses) • Distribute commodities and verify proof of delivery to facilities • Manage web-based LMIS • Manage all international procurements • Prepare procurement plans and schedule shipments • Manage PipeLine database • Coordinate the Forecasting Forum and Logistics Coordination Forum • Assist in coordination of partners' procurement • Develop, manage, and build consensus around contraceptive security strategies	1. Medicines planning and selection unit • Develop and update Essential Medicines List • Conduct forecasts and quantifications • Develop procurement plans • Coordinate/leverage procurement plans among partners • Supplier registration, manage supplier contracts • Ensure quality control of products to be procured • Establish technical specifications and requirements for procurement 2. Logistics Management Unit • Shipment verification/inspection/reception • Physical storage and inventory management procedures of essential medicines and supplies • Oversight and management of MOH and contracted (third party) central warehouses • Plan, manage, and ensure timely distribution schedules to regions and health facilities • Establish and monitor health facility stock levels to avoid overstocking and stockouts

	Zimbabwe	Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
	curriculum • Facilitate trainings for facility staff • Conduct periodic assessments • With NatPharm, conduct physical inventories of products • Resource for other programs (HTC, PMTCT, etc) to discuss logistics issues • Coordinate procurements of all donors • Provide documentation for quick clearance of goods through customs	• Provide logistics support and supervision of facilities • Provide OJT to facilities • Coordinate and facilitate trainings of facility staff		• Process emergency orders • Coordinate updated reporting on consumption and stock levels from regional warehouses and health facilities 3. Administration Unit • Coordinate timely budgeting and disbursement of financial resources based on strategic commodity needs • Plan, organize, and manage contracting procedures • Prepare and issue financial projections and budget reports • Issue purchase orders • Develop, document, and file all bid documents • Follow-up and document all procurement processes • Coordinate other general services (vehicles, fuel, per diem) • Update job responsibilities and procedures manual 4. Rational Use of Medicines Unit • Promote and oversee compliance with standard treatment guidelines • Ensure product selection according to standard treatment guidelines

	Zimbabwe	Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
				• Verify that strategic health commodities required in the standard treatment guidelines are included in Essential Medicines List • Coordinate revision/updating of Essential Medicines List with Medicines Planning and Selection Unit • Monitor and oversee good prescribing practices (with Monitoring and Evaluation Unit) • Conduct pharmaceutical surveillance 5. Biomedical Equipment Unit • Plan for procurement, replacement of biomedical equipment at health facilities • Update technical specifications to ensure quality of equipment • Propose innovations in technology with cost-benefit analysis • Conduct medical equipment inventory • Coordinate preventive maintenance of medical equipment at health facilities 6. Information Systems/Data Processing Unit • Operate and maintain information systems (hardware, software)

	Zimbabwe	Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
				• Provide technical support to system users • Design and control data collection and reporting forms • Establish indicators and information systems for commodity management • Maintain current manual information system database and computerized system once implemented. 7. Monitoring and Evaluation Unit • Monitor and supervise the implementation of the integrated logistics system for strategic health commodities • Develop management, monitoring, and evaluation indicators for the logistics cycle • Monitor implementation of the procurement plan • Monitor compliance with policies and standards of practice regarding treatment guidelines and rational use and consumption of commodities • Ongoing: monitor and evaluate the logistics processes

	Zimbabwe	Zambia	Bangladesh	Paraguay
Name of Unit	**Logistics Sub-Unit**	**Logistics Management Unit**	**Logistics and Supply Unit**	**Logistics Management Unit**
Who funds it?	USAID through the SCMS project	Central level: MSL; Provincial level: USAID through SCMS and the USAID | DELIVER PROJECT	Government of Bangladesh, World Bank, and donors	Government of Paraguay

Appendix B

Sample Job Descriptions

Position: Logistics Officer

Key Functions:

- Manage the HIV commodity distribution system and LMIS as staff of the Logistics Management Unit at the CMS.
- Forecast and quantify HIV commodity needs.
- Prepare procurement plans and delivery schedules.
- Prepare technical and status/progress reports on HIV logistics system performance and implementation activities.
- Work closely with pharmacy directorate and regional pharmacists to ensure accurate data collection and timely reporting of logistics data and to conduct regular monitoring of the logistics function at the SDP level.

Responsibilities:

The Logistics Officer has responsibilities including, but not limited to, the following:

- Participate in the design of a comprehensive HIV commodities logistics management system.
- Receive logistics reports and commodity orders from facilities, review them, and generate resupply quantities to be packed and delivered to facilities.
- Forward determined resupply quantities to the store controller for order processing.
- Maintain the records of dispatched commodities.
- Work closely with provincial medical directorates, central warehouse, and others to schedule HIV commodity deliveries to SDPs.
- Monitor the timeliness and accuracy of submission of HIV commodity orders and reports; provide feedback to facilities.
- Monitor the timeliness and completeness of deliveries of commodities to facilities; provide regular feedback to management.

- Use data from the information system to monitor stock status of all HIV-related commodities to inform commodity requirements forecasting, validate previous forecasts of requirements; evaluate the functioning of the HIV commodities logistics management system.
- Develop and maintain collaborative working relationships with all partners.
- Conduct regular field monitoring and logistics support visits to facilities (coordinate with provincial pharmacists, whenever feasible) to appraise the management of HIV and AIDS commodities.
- Conduct periodic physical inventories of HIV commodities stored in distributors' warehouses and at SDPs.
- Assist in conducting logistics management training and other related training and workshops.
- Participate in collaboration with other public sector importers (USG, UNICEF, etc.) in clearing HIV-related commodities through customs, and inspecting and testing of the same commodities.
- Serve on donor coordination and commodity management committees, as requested.
- Perform other duties, as necessary.

Position: Upstream Logistics Coordinator

Key Functions:

The Upstream Logistics Coordinator's primary responsibility is to liaise with all suppliers of HIV commodities to produce one overall national procurement strategy. As a Logistics Management Unit member, the coordinator is to ensure the continuous supply of HIV commodities wherever they are needed. He/she will work closely with the logistics management unit manager and data analyst to highlight any gaps in supply and work to ensure that these gaps are filled.

The coordinator will—

- collaborate with donors and suppliers to ensure a continuous supply of all HIV and AIDS commodities
- collect data for all planned shipments of HIV and AIDS commodities and use this data for informed decision making.

Responsibilities/Tasks:

Responsibilities include, but are not limited to—

- Work with the LMU manager to develop annual workplans.
- Manage the HIV commodities distribution system and LMIS.
- Forecast and quantify HIV commodity needs.
- Prepare procurement plans and delivery schedules.
- Prepare technical and status/progress reports on HIV logistics system performance and implementation activities.
- Actively communicate with donors to gather data on planned shipments, funding available, and commodity commitments to the national HIV treatment and prevention program.
- Monitor the timeliness and completeness of commodity deliveries to the country.
- Supervise data analyst to ensure accurate data is encoded and analyzed properly.
- Supervise drivers to ensure transport needs for all program activities are effectively and efficiently coordinated.
- Work with the data analyst to ensure that the PipeLine database is updated monthly.
- Generate regular stock status and logistics system progress reports to be presented to program managers, donors, and other stakeholders.
- Highlight any potential gaps in supply and work with the donor community to mobilize resources to fill these gaps.

- Conduct regular pipeline analyses and monitoring of commodity supplies at the national and facility levels.
- Develop and maintain collaborative working relationships with all partners.
- Assist in conducting logistics management training and other related training and workshops.
- Participate in collaboration with other public sector importers in clearing HIV-related commodities through customs and with the registration, inspection, and testing of these commodities; facilitate the transfer of these commodities to the CMS.
- Serve on donor coordination and commodity management committees, as requested.
- Perform other duties, as necessary.

Position: Data Analyst

Key Functions:

The Data Analyst will do the following:

- Enter all information from the monthly LMIS report/orders into the HIV commodities database.
- When entering data, check the quality and completeness of the LMIS report/orders; record discrepancies and make necessary notations.
- Draft feedback forms for each site; offer comments on adherence to scheduled submission dates, completeness, and accuracy of their monthly report.
- Provide copies of the database to the LMU manager and the MOH and back up each month's updated database onto a CD and flash drive; store the backup files, as needed.
- Adjust the reported data, as needed, to provide a picture of national consumption and stock on hand.
- Every month, update the PipeLine database for the national ART program with information that includes—
  - consumption and stock on hand information from the ART sites, as reported on the LMIS report/orders
  - stock on hand information from the CMS
  - all quantities on order (and expected delivery dates) from all supplying agents.
- Prepare monthly stock status reports (by province and national) for the LMU and the MOH.
- Calculate indicators of performance of the logistics system, including—
  - reporting rates
  - lead time tracking
  - patient scale up, by site.
- Respond to requests from the LMU manager and the MOH regarding data from the LMIS report/orders.
- With the LMU manager, develop a long-term vision of central-level information management for the HIV commodities logistics system.
- Perform hardware and software maintenance; troubleshoot IT issues that the LMU encounters.

Position: Logistics Management Unit (LMU) Manager

Key Functions:

The primary responsibility of the LMU Manager is to direct the LMU members to ensure the continuous supply of HIV commodities, wherever they are needed. The manager will strengthen and increase the capacity of the CMS to manage HIV commodities and will maintain a strong working relationship with the other MOH units. The Logistics Unit Manager:

- coordinates the activities of the LMU
- supervises the staff of the LMU
- manages the HIV commodities distribution system and LMIS
- forecasts and quantifies the HIV commodity needs
- prepares procurement plans and delivery schedules
- prepares technical and status/progress reports on HIV logistics system performance and implementation activities
- works closely with MOH pharmacy directorate and provincial pharmacists to ensure accurate data collection and timely reporting of logistics data; also conducts regular monitoring of the logistics functions at the SDP level.

Responsibilities/Tasks:

Other responsibilities include but not limited to the following:

- Work with the Upstream Logistics Coordinator to develop annual workplans.
- Coordinate storage and distribution of HIV commodities stored at the CMS.
- Supervise logistics officers' duties in receiving logistics reports and commodity orders from facilities; generate resupply quantities to be packed and delivered to facilities.
- Monitor the timeliness and accuracy of submission of HIV commodity orders and reports; provide feedback to facilities and central-level stakeholders.
- Monitor the timeliness and completeness of deliveries of commodities to facilities; provide regular feedback to CMS management.
- Work with the Data Analyst and the Upstream Logistics Coordinator to ensure that the PipeLine database is updated monthly.
- Generate regular stock status and logistics system progress reports to be presented to program managers, donors, and other stakeholders.
- Conduct regular pipeline analyses and monitoring of commodity supplies at the national and facility levels.
- Develop and maintain collaborative working relationships with all partners.

- Develop a supervision plan for all SDPs.
- Conduct regular field monitoring and logistics support visits to facilities (with provincial pharmacists, whenever feasible) to determine how the HIV commodities are being managed.
- Assist in conducting logistics management training and other related training and workshops.
- Participate, with other public sector importers, in clearing HIV-related commodities through customs; assist with registration, inspection, and testing of the commodities.
- Serve on donor coordination and commodity management committees, as requested.
- Perform other duties, as necessary.

Appendix C

Sample Terms of Reference for Logistics Coordinating Committees

Logistics Coordinating Committee
Terms of Reference

Purpose:

The committee will actively coordinate procurement and logistics functions with international and local organizations involved in supporting and providing essential health services, including financial, technical, or others. It should also be a platform to share experiences and ideas in the proper management of pipelines and to supervise the overall security for essential health commodities. The committee will operate within the goals of the National Health Strategic Framework. The committee will meet monthly at the Ministry of Health offices.

Objectives:

- Coordinate and strengthen linkages with all organizations involved in logistics activities.
- Coordinate and share information on supply plans, including upcoming shipments, to ensure there are no stockouts or expiries.
- Share results of forecasts and quantifications.
- Update partners on the stock status of selected essential commodities.
- Monitor and evaluate the performance of logistics systems.
- Inform all partners on upcoming logistics activities.
- Share supply chain management problems faced by various partners; develop effective solutions to address these problems.

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USAID | DELIVER PROJECT
John Snow, Inc.
1616 Fort Myer Drive, 11th Floor
Arlington, VA 22209 USA
Phone: 703-528-7474
Fax: 703-528-7480
Email: askdeliver@jsi.com
Internet: deliver.jsi.com