REPUBLIC OF UGANDA

MANAGEMENT OF MEDICINES AND HEALTH SUPPLIES MANUAL

Produced by: The Division of Pharmacy Services
Ministry of Health
Government of Uganda
March 2012

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PREFACE

This manual was developed by the Pharmacy Division, Ministry of Health, in collaboration with the Securing Ugandans' Right to Essential Medicines (SURE) Program with assistance from health workers representing all levels of care. The purpose of this manual is to provide health workers with a reference book on managing the supply chain for medicines and related health commodities. Medicines and health supplies form the second biggest expenditure in the health sector after human resources. Efficient management of these resources requires that health workers have the right skills, knowledge, attitude, and practice. Skills are the "how to do," knowledge is the "what to do," and attitude is the "why to do."

Supply chain management (SCM) is a continuous activity that involves selection, quantification, procurement, distribution, storage, and proper use. Although a number of cadres in the health sector, such as pharmacists, pharmacy technicians, and supply officers, receive training in SCM as part of their basic training, many of the other cadres handling health commodities do not receive SCM training as part of their professional courses. Therefore, in-service training is needed to fill the gap.

Over the years, several manuals have been developed that focused on specific categories of commodities, such as antiretrovirals (ARVs), tuberculosis (TB) medicines, and laboratory supplies. As a result, many tools and processes were developed just to handle specific items, leading to duplication and fragmentation that were costly burdens to the health care system.

The Pharmacy Division and SURE have spearheaded the consultation process to simplify and integrate tools and procedures to manage health commodities. This manual describes how to manage supplies based on revised and harmonized tools. It will act as a reference guide for health workers and focus on basic principles of SCM. If properly followed, it will promote efficient stock control and ordering of all essential medicines and health supplies. Health workers at all levels of care in the public sector are encouraged to use the stock management system described herein.

Financial resources to procure needed medicines and health supplies are limited; therefore, appropriate stock management to ensure optimal use of resources cannot be overemphasized. Wastage through overstocking, expiry, and inappropriate use should be minimized. This manual outlines the use of the vital, essential, necessary (VEN) classification system in stock control and ordering. When funds are limited, the quantities to procure must be reduced and prioritized as outlined in this manual.

In addition to the manual, a trainer's guide has been developed to help supply management supervisors systematically impart the necessary skills and knowledge to health workers.

We believe that this manual will act as a building block for more comprehensive, integrated, and institutionalized training in medicines management in the future.

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Dr. Jane Ruth Aceng, Director General, Health Services

ACKNOWLEDGEMENTS

First, we would like to extend our sincere gratitude to the US Government which funded this activity through the US Agency for International Development (USAID) grant implemented by the SURE Program.

Second, we take this opportunity to acknowledge different stakeholders for their effort and expertise in developing this manual. We would especially like to single out the Pharmacy Division, Ministry of Health (MOH); the Malaria Consortium; Makerere University, Department of Pharmacology and the Central Public Health Laboratory, MOH

Third, we would like to acknowledge the group that did a great job during the Delphi workshop to finalize the manual, and all those who provided comments and changes to the manual including—

Beatrice Nambuya, Stores Assistant, Mayuge District
Birna Trap, SURE Program
Daniel Kirunda, Clinical Officer, Nakasongola District
Dorthe Konradsen, SURE Program
Emmanuel Umirambe, SURE Program
Joseph Lusisira, Enrolled Nurse, Lyantonde District
Kenneth Tumusiime, Pharmacist, Jinja Regional Referral Hospital
Khalid Mohammed, SURE Program
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Martin O. Oteba, Assistant Commissioner, Pharmacy Division, MOH
Paul S. Ucakacon, Pharmacist, Rakai Hospital
Petra Schaefer, SURE program
Richard A. Kwemara, Clinical Officer, Kibaale District
Sam Omalla, SURE program
Secondo Okabo, Enrolled Nurse, Boro Health Centre II
Thomas Obua, Senior Pharmacist, MOH
Victoria Nakiganda, SURE Program
William Olumu, Pharmacist, Masaka Regional Referral Hospital

The following publications were instrumental in developing this manual—
Directorate of Pharmacy Service. Ministry of Health and Child Welfare. 2006. *Managing Pharmaceuticals and Ordering, Stock Management Module.* Harare: Republic of Zimbabwe.
World Health Organization, USAID | DELIVER PROJECT, Foundation for Innovated Diagnostics, Roll Back Malaria Partnership, President's Malaria Initiative, and UNICEF. *Transporting, Storing, and Handling Malaria Rapid Diagnostic Tests at the Peripheral Storage Facilities*. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 3; and Geneva: World Health Organization.
Ministry of Health. Pharmacy Division. 2008. *Medicines Management Manual, Medicines Logistics, and Stores Management Procedures for Districts and Health Facilities.* Kampala, Uganda: Government of Uganda.

ACRONYMS AND ABBREVIATIONS

AMC	average monthly consumption
ARV	Antiretroviral
CPHL	Central Public Health Laboratory
DHO	District Health Officer/Office
EMHS	essential medicines and health supplies
EMHSLU	Essential Medicine and Health Supplies List for Uganda 2012
EMLU	Essential Medicines List of Uganda (now EMHSLU)
FEFO	first expiry, first out
FIFO	first in, first out
HC	health centre
HMIS	health management information system
HSD	health sub-district
JMS	Joint Medical Store
MC	monthly consumption
MMS	Medicines Management Supervisor
MOH	Ministry of Health
NDA	National Drug Authority
NGO	nongovernmental organization
NMS	National Medical Stores
PC	Physical count
PNFP	private not-for-profit
PPDA	Public Procurement and Disposal Act
SCM	supply chain management
SURE	Securing Ugandans' Right to Essential Medicines [Program]
TB	Tuberculosis
UCG	Uganda Clinical Guidelines
UNEPI	Uganda National Expanded Programme on Immunisation
USAID	US Agency for International Development
VEN	vital, essential, and necessary (classification system)
WHO	World Health Organization

INTRODUCTION

This manual describes the procedures, processes, and tools used to manage medicines and health supplies. In addition, it describes the essential medicines and health supplies (EMHS) concept and how health workers can best utilize available resources to meet the needs of their patients or clients. The manual is expected to be used by all health professional students as well as in-service staff, dispensary and store staff in public and private not for profit (PNFP) facilities. Though the manual is not directly written to clinicians and prescribers or in-charges of health facilities, those cadres would also find some parts of this manual useful.

The manual is divided into 10 parts that deal with different elements of the health commodities supply chain and the resource allocation modalities. Part 1 introduces the role of supervisors in addressing poor medicines management skills and other EMHS-related problems facing the health facilities. It also introduces the essential medicines concept and related lists, which includes the Essential Medicines and health supplies list of Uganda. The vital, essential, and necessary (VEN) classification of the items in the lists is highlighted, and the importance of this classification tool for prioritization is discussed. Parts 2–6 describe activities related to managing EMHS, including how to organize a store, complete stock records (stock cards and stock books), order and receive supplies, issue medicines and health supplies, and dispense appropriately. Part 7 describes the processes related to managing laboratory chemicals and supplies. Part 8 deals with what to do when the medical stores are out of an item. Part 9 describes how to handle short expiry and expired items in the store. Part 10 covers the prevention of abuse, theft, and misuse of medicines.

The following two interventions described in this manual are significant—

- Training of medicines management supervisors (MMS) to mentor, coach, and support health workers implementing the stock and storage management system through the national supervision, performance assessment and recognition strategy (SPARS).
- Using the VEN classification system; if funds are short, the VEN system should be used to ensure that adequate quantities of vital items are purchased first

The chapters in this simplified manual have been arranged in a logical order, but each chapter is sufficiently detailed and complete to be read on its own.

PART 1: ESSENTIAL MEDICINES AND SUPERVISION

CHAPTER 1: MEDICINES MANAGEMENT SUPERVISORS

The Pharmacy Division, Ministry of Health (MOH), is working towards having a trained medicines management supervisor (MMS) in each district and health sub-district (HSD) throughout the country.

MMSs, including district focal persons (e.g., lab focal persons), will be trained in most aspects of pharmaceuticals, including the stock and storage management system, appropriate medicines use and dispensing practices, and accounting and financial management.

The objective of having trained MMSs is to help health facility staff ensure the availability of EMHS through implementing good practices related to medicines management as described in this manual and by ensuring good managing of finances, prescribing medicine according to Uganda Clinical Guidelines and dispense medicines included in the Essential Medicine and Health Supplies List for Uganda (EMHSLU), and performing laboratory tests according to laboratory testing protocols. When health facility staff strengthens supply chain management (SCM), financial management, and appropriate medicines use at the facility level, the outcome is increased availability of EMHS.

The national strategy for building supply chain management capacity and strengthening appropriate medicines use nationwide is based on applying a combined strategy comprising on-the-job training, a performance assessment and recognition strategy (SPARS) implemented by trained MMSs, and implementing the standard operation practices outlined in this manual at all facilities.

MMS duties include—

- Assessing health facility staff performance in SCM, ordering and reporting, financial management, and appropriate medicine use
- Building health facility staff capacity through on-the-job training and mentoring
- Reporting on findings, progress, and constraints
- Coordinating and collaborating on pharmaceutical activities at the district, HSD, and facility levels
- Solving problems

MMSs are there to help. By visiting health facilities on a regular basis, your MMS can give support and help solve problems. Although they specialize in medicines and health supplies management, they are usually members of the district health team, and any problems at the facilities can be brought to them to be addressed by the other district managers.

To make best use of the MMS, a facility should—

- Find out when the MMS will visit the health facility and in advance, make a list of issues to discuss with the MMS
- Ask questions and point out matters that are not clear or are not understood
- Record the visit in the visitors' book and supervision book so that any suggestions or agreements made can be followed up

- Contact the MMS and request a visit if the MMS has not been there for three months or longer

MMSs are not there to find fault or to reprimand, but are there to help you, so use the opportunity to learn from their visits.

The Regional Pharmacist, who is also a trained supervisor, supervises and supports the district MMSs. Regional pharmacy staff will provide technical support to the district supervisors and will also be the communication channel between the district- and central-level cadres. The district MMSs will supervise hospital and HC IV staff, and the HSD MMSs will supervise HC levels II and III staff.

HSD MMSs will generate monthly reports and submit them to the district MMSs. The district MMSs will in collaboration with regional level compile and submit a report to the District Health Officer (DHO) and the Regional Pharmacist.

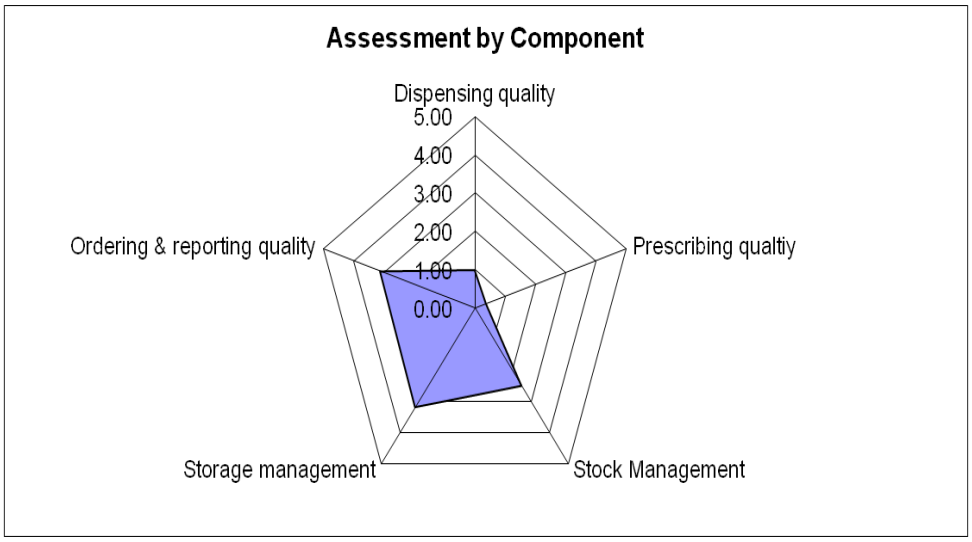
PERFORMANCE ASSESSMENT

During regular visits to the health facility, the MMS will assess the performance of the health facility based on a number of indicators. The indicators will show how the facility is progressing in areas including: stock management, storage management, prescribing quality, dispensing quality, and ordering and reporting quality. In addition, hospitals and HC IVs can be assessed on pharmaceutical financial management.

The health facility uses performance assessment data to identify improvement or weaknesses related to the management of EMHS. The aggregation of data at the health sub-district and district levels reflects the overall status of EMHS in the district, and the District Health Officer and his or her team can take appropriate action to resolve problems that need attention (see Figure 1).

Similarly, the national level regularly receives performance data, the MOH can get a snapshot of the status of EMHS in the health facilities, specifically issues such as availability, which often call for urgent action.

Figure 1: Example of Spider Graph Illustrating Performance of Health Facility in Five areas assessed. Max score in each area is 5.0.



Key Points

- ➔ Medicines Management Supervisors (MMS) will be responsible for handling the EMHS management issues and make regular on the job training and supervision visits to health facilities
- ➔ All supervision visits involve assessment of performance using a standard indicator tool and joint problem solving through coaching and mentoring
- ➔ MMS work as part of a team, the District MMS supports the Health Sub District MMS. The MOH Regional Pharmacist supports a number of district MMS

CHAPTER 2: ESSENTIAL MEDICINES AND VEN CLASSIFICATION

> Essential medicines satisfy the health care needs of the majority of the population, at a price they and the community can afford. Therefore, these medicines should be available at all times, in adequate amounts, and in appropriate dosage forms.
> *WHO Expert Committee on Essential Drugs, December 1999*

ESSENTIAL MEDICINES CONCEPT

The essential medicines concept is a public health principle that promotes efficient use of resources by establishing and using a limited list of carefully selected medicines. By selecting a few key medicines, better therapy, and easier supply, storage, and distribution, can be assured and medicines obtained at a lower cost. The concept is based on the observations that—

- The vast majority of health problems for most members of the population can be treated with a small, carefully selected number of medicines.
- In practice, most doctors and other health professionals routinely use fewer than 200 medicines. Training and clinical experience should focus on the proper use of these medicines.

What makes medicines and health supplies essential is that they satisfy the priority health care needs of the entire population. To select an essential medicine, relevance to public health, evidence of efficacy and safety, and comparative cost effectiveness are considered. In 2012, Uganda also applied the essential medicines concept to cover supplies and laboratory supplies.

Benefits of the Essential Medicines Concept

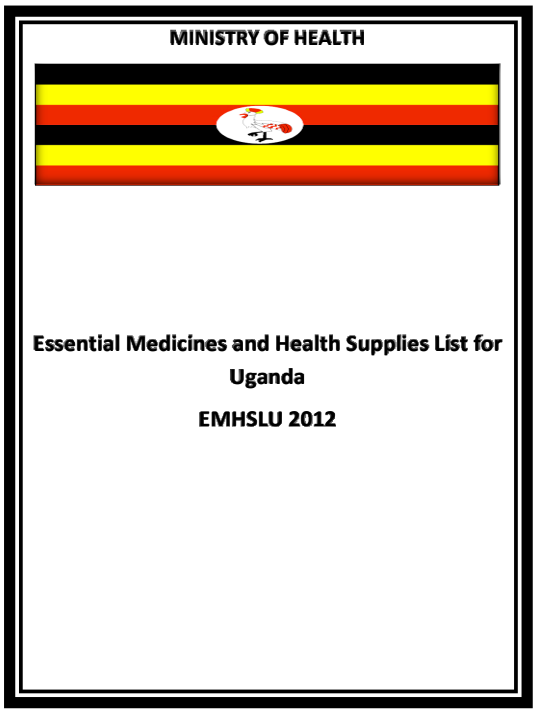
Health systems that adopt the essential medicines and supplies concept can expect a number of benefits—.

- With fewer items, it is easier to manage the commodities. There will be better stock management, higher availability, it is easier to ensure quality, reduce expiry and increase redistribution should it be required.
- Higher quality of care because of better availability of medicines and supplies and with fewer medicines to manage, quality of prescribing will improve

- More cost-effective use of health resources from procurement of larger quantities of fewer supplies and from reduction of waste.
- Easier training of health workers and prescribers; use is improved
- More informed patients—health workers and dispensers can provide better information to patients when they have fewer medicines to use and learn about

THE ESSENTIAL MEDICINES AND HEALTH SUPPLIES LIST OF UGANDA

The old EMLU was updated in 2011. It has now been expanded to include the essential list of medical supplies and essential laboratory supplies. It is now called the Essential Medicines and Health Supplies List for Uganda (EMHSLU). The list includes essential lists for medicines, health supplies, and laboratory supplies and shows the lowest level of care at which each item should be used and a classification of its importance (VEN classification—see later). The Uganda Medicines and Therapeutic Advisory Committee review the list periodically. This committee comprises experts from all specialties of medical care who carefully follow developments in the medical and pharmaceutical sectors to develop treatment guidelines and update the list.



VITAL, ESSENTIAL, AND NECESSARY CLASSIFICATION

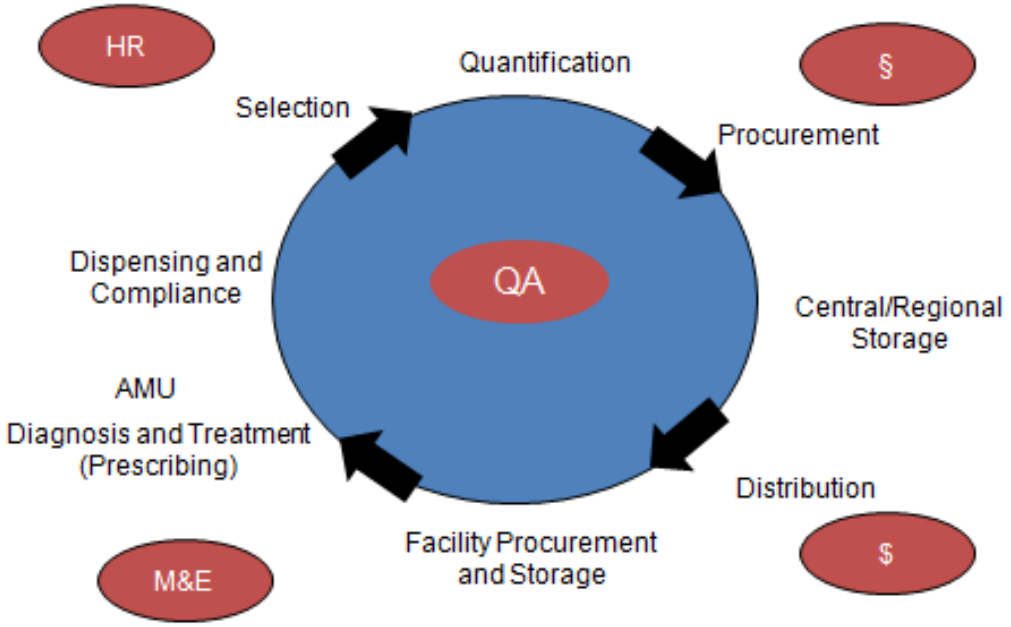
Each item on the EMHSLU has been classified as either ‘V’ for vital, ‘E’ for essential, or ‘N’ for necessary. V items have first priority and are lifesaving. If these items are not available, it could mean the death of a patient or irreparable injury or major health outcomes may be jeopardised. E items have second priority; if these items are not available, the patient could suffer pain or great discomfort. N items are needed and are therefore on the order form; however, they have third priority if money is not enough.

Because of limited funds, facility staff must make difficult decisions about which medicines and health supplies to purchase. In many cases, the facility budget will not be enough to buy all the essential medicines and health supplies that meet the estimated requirements. In such a situation, the VEN classification guides the health facility staff in adjusting quantities to suit the budget. The health facility managers should always ensure that all V items are included in their procurement list before adding the E and N items as funds allow. The VEN principle applies to all health commodities including sundries, laboratory chemicals, and consumables.

THE ESSENTIAL MEDICINES AND HEALTH SUPPLIES LOGISTICS CYCLE

The EMHS logistics cycle illustrates how the various function are linked, each building on the previous and leading logically to the next. Figure 2 shows that certain activities lie outside the cycle but are important for the smooth functioning of the cycle; these include HR (human resource),§ (Legal, regulation and Policies) $ (finances), and M&E (monitoring and evaluation systems). The centre of the cycle represents the QA (procedures and practices that provide quality assurance and quality control of all the EMHS, manufacturers, drug outlets Etc)

Figure 2: The Components of the EMHS Logistics Cycle



Source: Ministry of Health & Child Welfare Zimbabwe Drug Management Supervision Course: December 2008

Selection

Selection involves deciding which items to procure based on the EMHSLU. The lists are developed at the national level on the basis of the Uganda Clinical Guidelines and other national guidelines for laboratory practices and required laboratory tests.

Quantification

Quantification involves estimating how much of the selected item should be procured, taking into consideration past consumption and available funds. In quantifying the need, finances are often a constraint, and it is important to use the Vital, Essential, and Necessary classification for the different levels of care—giving priority to Vital/lifesaving items.

Procurement, storage, and distribution at central level

Procurement at national level involves selecting the procurement method, managing the tender process, and ensuring adherence to contract terms. When the goods are delivered, they have to be cleared at the customs, stored, and delivered to the health facilities.

Facility procurement and storage

The district and facilities have to regularly order medicines based on the schedules agreed on by suppliers. The National Medical Stores (NMS) has developed a bimonthly (every other month) ordering and distribution schedule. The Joint Medical Store (JMS) runs a cash and carry system whereby health facilities or districts can order and pick up their supplies at their convenience. When buying health commodities from private suppliers, the buyer and the seller agree on the delivery schedules.

Medicines are complex chemicals that need to be handled with care. Receiving and storage procedures must be followed to ensure that the items are of the desired quality when they are received and will remain so until they are used. The medicines store also has elaborate systems that will not only minimize spoilage and pilferage, but will also provide information needed for accurate quantification.

Appropriate medicines use

Efforts in selection, quantification, ordering, and storage are wasted if the medicines are not used rationally. Appropriate use of medicines includes proper history taking, diagnosing, prescribing, dispensing, and correct use by patients.

Quality assurance

For the EMHS logistics cycle to function effectively and ensure good quality products, a number of factors such as quality control, licensing and regulation should be in place. Policies, guidelines, and operating procedures have to be developed and implemented to ensure quality of the medicines and supplies. The main responsibility for quality assurance lies with the National Drug Authorities.

KEY POINTS

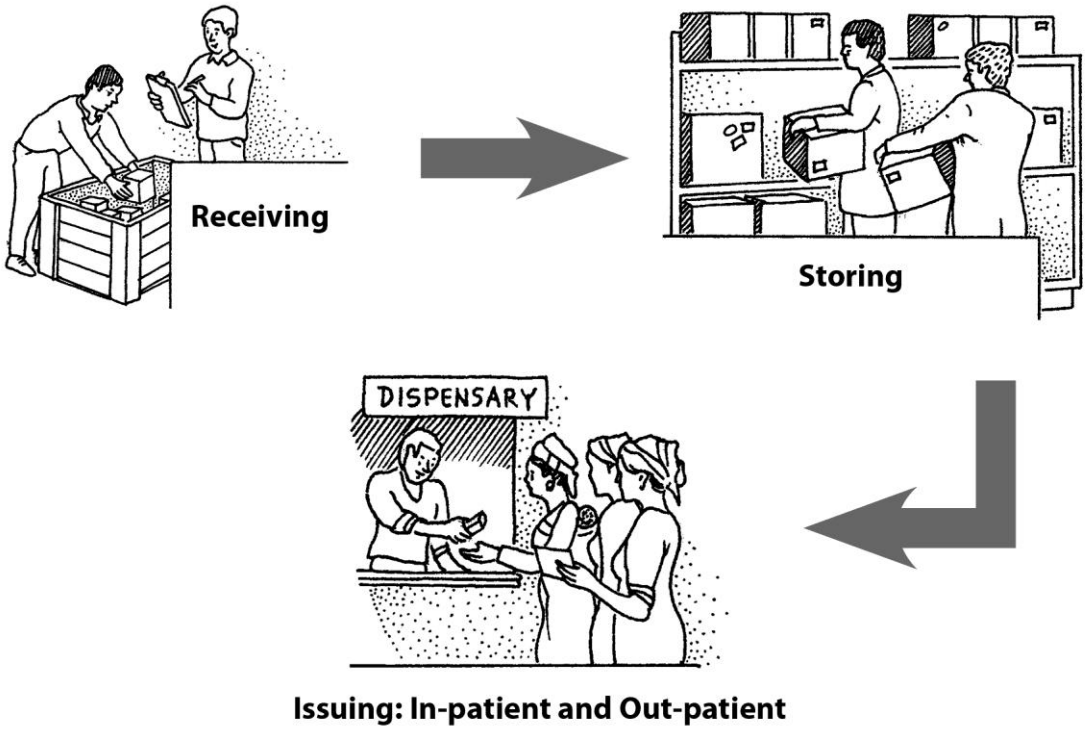
- ➔ Uganda now has one essential list for medicines, health supplies and laboratory supplies called the Essential Medicine and Health Supplies List for Uganda (EMHSLU)
- ➔ All EMHS have been classified according to their importance using the VEN system and according to the level of care for which they are intended to be used.
- ➔ The VEN classification system should be used when procuring pharmaceuticals. Give priority to V items, which are lifesaving, to ensure their availability.

PART 2: ORGANIZATION OF A MEDICAL STORE

Essential medicines and supplies have a specific period of time during which they should be used (shelf life). This is indicated by the date of manufacture and expiry on the item's label. The shelf life indicates the time the item can be used safely if it has been stored under the manufacturer's recommended storage conditions. Poor storage can result in deterioration or the development of poisonous degradation products that can be hazardous to the patient.

Health workers in charge of medical supplies must monitor the shelf life of medical supplies closely and strictly adhere to the storage conditions recommended by the manufacturer. The two most important factors that affect the quality of medicines and supplies during transit and storage are temperature and humidity. This part of the manual describes how to organize the store and the supplies so that their quality does not deteriorate before use.

Figure 3: Flow of Medicines at the Facility Level



Adapted by Strengthening Pharmaceutical Systems Program/Uganda from Rational Pharmaceutical Management Plus Program. Monitoring-Training-Planning Training Materials. Arlington, VA: Management Sciences for Health.

CHAPTER 3: MEDICAL STORE AND SUPPLIES

ORGANIZING THE STORE

Stock control at only "one" place

Medical supplies should always be kept in a secured, designated storage space because medical supplies are expensive and very marketable. These items need proper care or they may deteriorate, resulting in loss of potency or development of poisonous degradation products that might harm patients. To store medicines and supplies properly, health facilities need a store that is in good physical condition, can be secured, and has shelving.

It is important to note that proper management of the store and stock records requires that only one store should provide supplies to all departments in the health facility. Some facilities release supplies to an intermediate store, which then supplies other units. For example, hospital stores issue bulk medicines to the pharmacy, who then issues them again in bulk to the wards, while also keeping a second set of stock cards. This duplication is unnecessary and does not add value to the storage process. **Only the main store should keep stock cards**, while the main departments, whether outpatient or inpatient, should all get their supplies from the one main store and then dispense to their patients.

Important points to remember

Keep the following issues in mind when organizing and operating the store —

- Designate a secure room or cupboard at your health facility to be the store.
- Assure that windows should be burglar proof.
- Separate the store from the dispensing area; do not dispense medicines to patients directly from the store.
- Make a schedule to issue supplies from the store to user departments once or twice a week. This allows the store keeper time to update records and for the user departments to plan appropriately.
- Always lock the treatment room unless the medicines are in a lockable cupboard.
- Do not leave patients alone in the treatment room.
- Prevent deterioration of your medicines and health supplies. Excessive heat, light, or humidity may cause your medicines to spoil. Liquids, in particular, and other supplies, such as HIV tests, are affected by high temperature. Some medicines, such as injectables and eye and ear drops, deteriorate very quickly when exposed to light. Tablets and capsules can easily absorb water from the air, making them sticky or mouldy, and causing them to deteriorate. Always put the lid back on the container, even if you are going to use the same tin later in the day.
- Indicate the date when bottles have been opened (i.e., write the date on the label or a sticker when a 5-litre cough syrup bottle was opened). For example, oral suspensions can only be used for 14 days once the container has been opened.

Control temperature

The store temperature should not exceed 27°C. Simple measures to make your store cooler are to—

- Make sure the store has a ceiling; ask for assistance from your DHO to obtain one.
- Install a ceiling fan or air vents in the store.
- Open the windows to allow air to move freely while staff is working in the store.
- Use the refrigerator to keep medicines and supplies that require a storage temperature of 2–8°C (e.g., ELISA tests, VDRL reagents); do not allow medicines to freeze because this can be as harmful as exposing them to high temperature; never store food or water in the refrigerator with medicines because this will introduce warm air due to frequent opening..
- Store the medicines on the refrigerator shelf and not the in the door because temperature there might be more difficult to maintain.
- Ensure that the refrigerator is lockable, especially if it is outside the store.

Many laboratory commodities require special storage conditions (Table 1).

Table 1: Typical Storage Conditions for Supplies

Reagents	Shelf life	Storage temperature	Packaging
Blood typing sera	24 months	2–8°C	5 mL bottle
Bacteriological media	36 months	21–30°C	500 g bottle
Chemistry reagent kits	12 months	2–8°C or 21–24°C	100 tests per kit
CD4 antibody reagent	≥ 7 months	2–8°C	50 tests per kit
Testing controls	3 months	2–8°C	50 tests per kit
Sickling test (for use)	12 hours	Room temp	As required
Stains, dry powder	60 months	21–30°C	25 mL bottle

Avoid direct sunlight

Store health commodities in a dry, well-lit, and well-ventilated storeroom, away from direct sunlight:

- Direct sunlight raises the temperature of the room and can reduce product shelf life. If light enters the store, make sure that it is indirect. The best way to do this is to paint the storeroom windows white or hang curtains or blinds to block direct light.
- Some supplies are very sensitive to light and should be protected from direct sunlight and fluorescent light by keeping them in the cupboard or closed boxes. These include x-ray films, latex products such as condoms and gloves, and certain medicines such as zidovudine.

Protect the store room from water penetration

Water can destroy EMHS and their packaging. Repair the store room so that water cannot enter. Take steps to control the humidity in the store by—

- Making sure there are drainage channels around the outside of the store and gutters with pipes running down from the roof
- Ventilating the store with windows; secure all ventilation and drainage areas with grills or bars to prevent theft
- Repairing all leaks as soon as possible to reduce damage
- Stacking supplies off the floor on pallets at least 10 cm high and 30 cm away from walls to prevent moisture that seeps in through walls and floors from making contact with the products; stack no more than 2.5 m high
- Leaving sachets of desiccant (non-edible drying crystals) in containers of tablets and capsules after the containers have been opened; the desiccant keeps the inside of the container free of moisture
- Not using products if the inner packaging is damaged because the medicines might have been exposed to humidity and it might have deteriorated.

Clean and disinfect the store room regularly

Clean and disinfect storeroom regularly to prevent contamination of the EMHS and take precautions to prevent insects and pests from entering the store. Pests are less attracted to the storeroom if it is regularly cleaned and disinfected. Picture 1 illustrates a before and after scenario.

You should—

- Set up a regular schedule for general cleaning and disinfection of the storeroom. First sweep and dust the shelves and then floors, then wash with Hibiscrub, chlorhexidine, or liquid soap
- Keep food and drink out of the storeroom
- Not keep broken containers in the store because common pests, such as rodents, ants, and wasps, are attracted to spilled items, like sugary liquids
- Keep all bottles and containers closed when not in immediate use
- Clean spills properly with detergent without delay
- Use insecticides and rat poisons only with a lot of caution. Mechanical devices such as insectocuters and rat traps are preferred, so that dead vermin can be easily removed
- Remove unwanted items from the store room regularly to make more space available for storage; remove empty cardboard boxes
- Remove or put away old files and office supplies because they reduce the space available for medical supplies
- Keep the area outside the facility/ store clean

Picture 1: Keep the store tidy

A

B

A shows a disorganized and congested EMHS store; and B shows a well-arranged cupboard used to store medicines and supplies in a lower-level health facility (Sembabule district health facility)

Observe fire safety

Keep fire safety equipment available, accessible, and functional, and train employees how to use it. Keep the following points in mind—

- Stop a fire before it spreads to save valuable products and the facility and to reduce the chance of injuries
- Have the right equipment available; for example, water can put out simple paper fires, but is ineffective on electrical and chemical fires
- Place well-maintained fire extinguishers at suitable positions in the store room
- Keep sand or soil in a bucket nearby, if a fire extinguisher is not available
- Train the staff in the use of the available fire safety equipment, regardless of the method used
- Store flammable lab supplies in their original containers in the coolest possible location and away from sunlight

Limit access to storage area

The storage area should only be accessed by authorized personnel. The room must be locked when no activity is taking place. In addition, you should—

- Not prevent appropriate supply of medicines to wards by limiting access; therefore, keep keys with the in-charge of the facility if the stores person is absent. Then it is always possible to get supplies but you can control who accesses the store.
- Conduct physical counts of inventories regularly to verify inventory records
- Store health commodities away from insecticides, chemicals, flammable products, and hazardous materials. Exposure to insecticides and other chemicals may affect the shelf life of medical supplies; spills of insecticides contaminate medical products and make them unusable.

Handle expired and damaged items carefully

Care must be taken when handling unusable items; for example—

- Separate damaged or expired health commodities from usable commodities, remove them from inventory immediately, and dispose of them according to established procedures.
- DO NOT use expired medicines!
- Designate a separate part of the storeroom for damaged and expired goods. This area should clearly be labelled as the storage area for expired items, and where possible, should be physically separated from other commodities. For more information, see Chapter 16 and 17 on handling expired and short-dated items.
- Always inform the district medicines management supervisor and relevant authorities about any expired products and they will advise you on the necessary disposal steps.

ARRANGEMENT OF SUPPLIES

Try to store all medical supplies in one store room. If this is not possible, then keep the same types of medicines or supplies together so that it is easy to know how much stock is on hand. Do not keep a bit of everything in each storeroom; this practice can lead to the assumption that stock is in another storeroom, when nothing may be left or the stock has expired. If it is necessary to use two rooms, keep bulk items, like dressings, in the store furthest away.

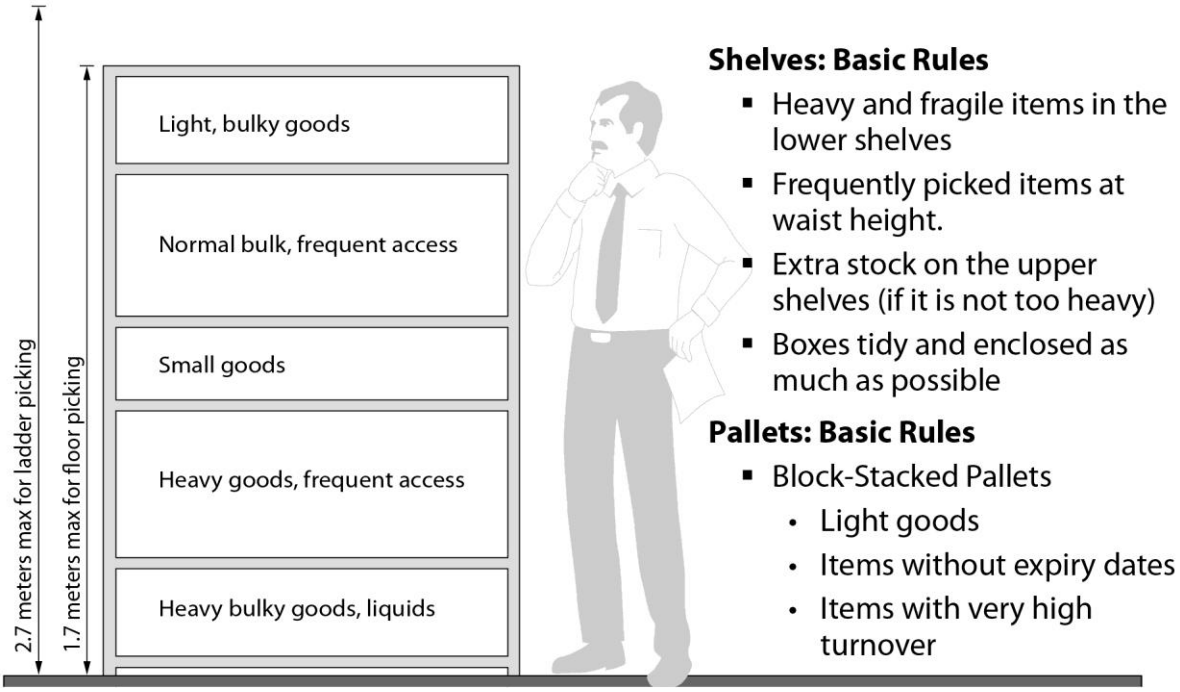
When medicines and health supplies are placed in the store, organize them so that finding the items is easy. Similar types of items should be shelved together. Items with earlier expiry dates should be placed in front of those with later expiry dates. Figure 4 shows the rules for pallets and shelves.

Other practices to follow include—

- Store bulky, heavy items and corrosive liquids on the lower shelves and flammable items (e.g., ether and ethanol) in a metal box or cabinet at ground level, while keeping to your storage system (alphabetic, formulations, or therapeutic). Liquids may leak and so any items stored below them might be spoiled.
- Arrange the supplies on the shelves and label the shelves with the generic product names. Place each item at its correct label. Arrange items in the order that makes it easy to count, such as pairs or groups of 5s or 10s.
- Following these procedures makes it easy to organise your supplies. It is also easy to see which items are running short.
- Store items according to FEFO (first expiry first out) procedures.
- Note the date printed on a label which indicates when a drug will expire. Manufacturers print dates on drug packages to show how long the medicines will remain potent and effective under the recommended storage conditions. Expired drugs should not be used. Check the expiry dates for all the items in your store. Remove items that have reached expiry date and take them to a specially designated and labelled area. Make sure that the medicines with short expiry dates are placed in front of those with longer expiry dates. If stock is received with the same expiry date as stock already on the shelf, store the newly received stock behind the stock already on the shelves.

- Store items with no expiry dates so that they may be used in the order that they were received. Put newly received items behind the items already on the shelves. This is referred to as FIFO (first in first out) procedure.
- Get rid of excess stock by sending it to your district hospital or to a higher-level health facility. Whatever you cannot use before the expiry date should not be in your institution. If drugs expire in spite of your best efforts, clearly mark them as "expired", and return them to your district or store separately. For more information see MOH guidelines for redistribution described in Chapter 17: What to Do With Expired or Damaged Stock
- When batch and expiry information are on the secondary packaging of a consignment of medicines and not on the primary packaging, take care not to dispose of the secondary packaging for reference purposes.
- In the case of liquids, confirm that the containers are upright in the secondary packaging before placing them on the racks or shelving to eliminate accidental spillages as a result of a packing error.

Figure 4: Rules for Pallets and Shelves



Source: Republic of Zimbabwe. 2006. Managing Pharmaceutical Stock and Ordering, Stock Management Module. Harare: Directorate of Pharmacy Services, Ministry of Health and Child Welfare.

KEY POINTS

- ➔ Store medicines in a clean, safe, well-maintained store, protected from heat, light, humidity, and pests
- ➔ Stick to FEFO for those items with an expiry date and FIFO for items with no expiry date
- ➔ Remove expired stock to an designated area clearly marked for expired medicines and health supplies
- ➔ Redistribute excessive stock to other facilities
- ➔ Label the shelves with generic names and place each item at its correct label

PART 3: STOCK MANAGEMENT

Stock management, also known as inventory management, involves all the policies, procedures, and techniques used to maintain the optimum amount of each item in stock. It involves ordering, receiving, storing, issuing, and reordering items. Stock and inventory management are the heart of the medicines supply system.

Stock control involves monitoring the supplies by various reporting methods. By systematically monitoring and controlling stock, appropriate orders can be prepared that optimize limited resources and minimize stock-outs and expiry. The stock control system described below should be used by all health facilities at all levels, from the primary health care level to the central hospital level, including municipalities, councils, missions, and other government institutions.

This part describes the basic elements of the stock control system including stock cards, stock books, and calculating minimum and maximum stock levels. After going through this section, the reader should be able to implement a stock control system.

CHAPTER 4: PURPOSE OF A STOCK MANAGEMENT SYSTEM

An effective stock management system should ensure that the right medicines of the right quality and quantities are available at the right place, at the right time, and at the right cost. Within public health institutions, the aim is to consistently make safe, effective, quality, and affordable medicines and health supplies available.

PRINCIPLES OF THE STOCK MANAGEMENT SYSTEM

Stock management enables you to track an item's consumption history to quantify future needs. It is therefore necessary to keep correct records of an item. The tools used to keep stock records are the stock cards and the stock books. From these, you can determine average monthly consumption (AMC), minimum stock, maximum stock, what to order, and when to order.

BENEFITS OF KEEPING GOOD RECORDS

Good records **save time** because—

- The expected quantity in stock is known before counting
- The store can easily be handed over to a colleague; if you are not at work, others can understand the quantities of medicines and supplies available at the health facility by looking at the stock cards
- Patterns of use at your health facility can be determined and any unusual changes detected
- When to order which medicines can be established

Good records **protect**—

- The staff against accusations of theft or misuse of medicines and health supplies
- Against cases of disputed delivery because the arrival of medicines and health supplies is always tracked

Good records **prevent**—

- Under stocking and stock-outs because stock balances are known at all times and items can be ordered in time to ensure availability
- Overstocking and wastage because large quantities of stock can be redistributed before it expires

Good records **allow**—

- Estimation of the cost of medical supplies for the year so a budget can be prepared (see *Pharmaceutical Financial Management Manual*).

When an effective stock control system is maintained in all health facilities, the NMS can more accurately quantify how much and when to order, which prevents overstocking and running out of stock.

KEY POINTS

- ➔ An effective EMHS stock management system assures that the optimum amount of medicines and supplies are available at health facilities at all time
- ➔ Properly maintained records provide quick knowledge about available stock, estimation of needs at both facility and national levels and save you time

CHAPTER 5: STOCK CARD

ADVANTAGES OF THE STOCK CARD

There are two main reasons for maintaining accurate data on stock cards:

Accountability. EMHS are public property and therefore must be accounted for. Stock cards quickly show how much stock is on hand and help to monitor stock to prevent losses or theft. For example, to check the quantity of doxycycline or HIV test kits available, count the amount dispensed according to the treatment register/dispensing log and add it to the amount still in the dispensary. Compare this with the amount issued from the store room. The two quantities should be more or less equal. Only if you do stock take in the dispensary or wards can you expect they are fully equal. If you do monthly stock takes in the dispensary, you must record the date and quantities in stock in a separate record or in the prescribing and dispensing log. If you find that significantly, more of the item has been issued from the storeroom than what has been dispensed to patients, then an investigation is needed and security should be improved.

Calculation of consumption. Knowing how much has been used in the past is important to predict what is needed in the future. Stock cards show exactly how much of each item moves in and out of the store over a period of time and which department has used it. The average monthly consumption and the maximum stock level, which tell you when to order and how much to order, respectively, can easily be calculated.

District officials or MMSs on routine or special visits to the facility may look at your shelves and tell you that you are overstocked when you know you are not. In this case, you can show them the stock cards and prove that the item is not overstocked based on the maximum stock (S*AMC) requirement. When a staff member hands over the job to someone else, that person can easily check the stock by using the stock cards. Quantities of medicines used indicate how much to order.

Each commodity in the store should have a stock card in the store, including surgical items. You should have a separate stock card for similar items if they have—

- Different pack sizes (e.g., paracetamol 500 mg pack of 100 tablets and paracetamol 500 mg pack of 1000 tablets)
- Different strengths or weights or volumes (e.g., co-trimoxazole 400/80 mg and 200/40 mg [paediatric] tablets or cotton wool 500 g and cotton wool 200 g)
- Different formulations (e.g., amoxicillin syrup and amoxicillin capsules)

Preferably keep the stock card with the item on the shelf or on top of the refrigerator for items stored in the refrigerator, such as laboratory reagents. Alternatively, keep the stock cards organized in a box file but that makes it more difficult to ensure that stock cards are up to date and that there is an entry every time items are issued.

An example of a stock card is shown in Figure 5.

Figure 5: Stock Card

HMIS FORM 015 STOCK CARD

Health unit name:

Health unit code:

Item description (name, formulation, strength):	Pack size:	Code no:

Special storage conditions:

Unit of issue:	AMC:	Maximum stock level:	Minimum stock level:

Date	To or from	Voucher number	Quantity in	Quantity out	Losses/ adjustments	Balance on hand	Expiry date	Batch no.	Remarks	Initials

HOW TO PREPARE STOCK CARDS

Stock cards track the movement of medicines and health supplies in the stores and one card should be kept for each item in the store. Each time a transaction takes place, it must be recorded on the stock card; for example, receipt of new stock, lending to another facility, or physical count. Information on the stock card facilitates the management of inventory at the facility. The stock card is filled in by the person in charge of the store (store manager, store keeper etc.) or the person who carried out a particular transaction at that time.

Instructions for filling in a stock card follow:

1. When starting a new stock card, complete the **header information**. You can get much of this information from the NMS delivery note, catalogue, or pricelist
   a. Health unit name: the name of the health unit and the level of care, (e.g., Mugalike HC II)
   b. Health unit code: the health unit code provided by the MOH
2. **Item description**: comprises the following information
   a. The name of the item; this should be the generic name (e.g., co-trimoxazole, zidovudine)
   b. The dosage form/formulation (tablet or syrup)
   c. The strength: (480 mg tab). For lab items, write the strength of the reagent (e.g., 50% acetone–alcohol decolorizer). Items of different strengths should have different stock cards (e.g., co-trimoxazole 480 mg and 960 mg; sulphuric acid 5% and 20%)
3. **Pack size**: fill in the pack size of the item (e.g., tin of 1,000 tabs of paracetamol). Some lab items may be of different sizes or pack sizes (e.g., glassware like Vacutainer Tube EDTA, Abbot Determine™ 100 tests). *Note that items with different pack sizes should have a different stock cards*
4. **Code no**.: the official number of the item as given by the medical store (e.g., NMS)
5. **Special storage conditions**: indicate if any items require special storage conditions (e.g., refrigeration)
6. **Unit of issue**: the smallest unit of the item issued from the store (e.g. 1,000 tablets for co-trimoxazole)
7. **AMC**: the quantity of items consumed per month called *average monthly consumption*; it should be calculated periodically because the consumption rate may vary; AMC is useful in determining the maximum and minimum stock. AMC should be written in pencil so that on updating, you simply rub out the previous one. The stock book (discussed later) makes it easy to calculate AMC
8. **Maximum stock level**: the largest amount of stock that should be held by the facility, expressed in quantity (i.e., number of pack units)
   a. For EMHS, the maximum stock level has been set as the quantity used in five months
   b. For antiretrovirals (ARVs), it is the quantity needed for four months
   c. For lab commodities with a short shelf life (e.g., lab reagents), it is the quantity for three months; this also applies to slow-moving lab commodities such as Maygrunwalds stain where less than one unit is used every three months
   d. Every time the AMC is calculated, multiply it by 5 for EMHS, 4 for ARVs, and 3 for lab supplies to get the maximum stock level. Write it using a pencil so it can be updated.

9. **Minimum stock level**: the lowest amount of stock that should be held by the facility, expressed in quantity (i.e., number of pack units). The minimum stock is always two months
   a. Initially, this value may not be accurate, but an estimate can be made until it can be calculated with confidence
   b. Every time the AMC is calculated, multiply it by 2 to get the minimum stock level
10. **Date**: record the date when the transaction (receipt or issue) is made; each transaction should be recorded on a separate row
11. **To or from**: write in the location where the product is coming from or is being sent to
12. **Voucher number**: any transaction (except a loss or adjustment) should always be accompanied by a voucher. You must record the voucher number; and keep the vouchers in a separate folder
13. **Quantity in**: record the number of packs of the item received (e.g., 5 tins /jars of co-trimoxazole tablets)
14. **Quantity out**: record in pack units the amount of an item being given out
15. **Losses/adjustments**: refers to any issue out of the store for reasons other than consumption within the facility
   a. Changes in your stock due to removal of expired items, damaged items, theft, or adjustments to stock numbers during stock-taking (i.e., if the actual physical count does not add up with the numbers on the stock card)
   b. Redistribution to other facilities should be recorded as a loss (inserting the negative sign [−] before the figure)
   c. Gains in stock quantities by means other than normal procurement channels (e.g., borrowing from a neighbouring facility) should be recorded as an adjustment (inserting the positive sign [+] before the figure)
16. **Balance on hand**: the balance on hand after adding quantities received or subtracting quantities issued or making adjustments for losses from the previous stock balance
17. **Expiry date**: the expiry date for each new item received should be written in the given space
18. **Batch no**.: record the batch or lot number indicated on the manufacturer's packaging every new item received
19. **Remarks**: record any necessary comments, notes, or explanations (i.e., physical count)
20. **Initials**: the person updating the stock card should fill in his or her initials

Stock cards can be bought from the NMS or Joint Medical Store. Stock cards are a stock item and should be entered in the stock book and have a stock card themselves.

Note: Keep used stock cards for at **least six years** in a file or in a clearly labelled envelope, item by item, for auditing purposes. For each item, number them consecutively 1, 2, 3, etc.

The following information must always be filled in on the stock card:

- Item description
- Quantity in or quantity out
- Adjustment
- Balance
- Initials

HOW TO USE STOCK CARDS

Preferably place each card on the shelf next to the item. Alternatively, have stock cards in a box file. The box file must be in the store and the stock cards put in an organized manner to easily find the right card. However, as all issue and transactions must be recorded immediately it is much easier if the cards are kept next to the items and not in a box file. You minimise the risk of forgetting to update the cards if it is kept next to the item.

Count the number of units that you have in stock and fill that number in under the "Balance on hand" column on the first line. Do not forget to date and initial the entry. For example, if there are 2 jars of 1,000 penicillin-V tablets, the "Balance on hand" column should read 2 tins, not 2,000. **Always record quantities in the stock cards using packs and not using tables or capsules.** It will make your work easier and neater.

Issue one whole unit at a time; do not keep partially used units in the store room; keep these in the treatment room or dispensary.

An example of a filled in stock card is shown in Figure 6.

Figure 6: Filled in Stock Card

HMIS FORM 015: STOCK CARD

Health Unit Name: SEGUKU HC III Health Unit Code: NMS KL0091

Item Description (Name, formulation, strength): Metronidazole tablet 200mg **Pack Size:** 1000's **Code No:** 220 415

Special storage conditions: none

Unit of Issue: tin of 1000's AMC: 23 Max Stock Level: **5** months 115 Min Stock Level: 2 months 46

Date	To or From	Voucher number	Quantity-in	Quantity-out	Losses/ Adjustments	Balance on Hand	Expiry date	Batch No.	Remarks	Initials
4/6/2011	Physical count (PC)					3	Jun-12	LK00567	balance brought forward	OJ
20/6/11	NMS	N00437	20			33	Nov-13	GH064K		OJ
22/6/11	Dispensary	V-45		12		21				OJ
28/6/11	OPD	V-46		5		16				TH
30/6/11	OBS & GYN	V-47		6		10				TH
3/7/2011	PC				-1	9			broken & spilled	OJ
4/7/2011	Dispensary	V-48		9		0				OJ
15/7/11	JMS	J0539	25			25	May-12	KL0087	donation from KPI	OJ
15th/7/ 2011	Kiswa HC-III	V-49			-15	10	May-12	KL0087	lending stock	OJ
20/7/11	OPD	V-50		5		5				OJ
21/7/11	NMS	N00785	55			60				TH
26/6/11	OBS & GYN	V-51		3		57				TH
2/7/2011	PC					57				OJ
4/8/2011	OPD	V-52		7		50				OJ

THE PHYSICAL COUNT

Once a month, at about the same time every month and just before writing orders to NMS and JMS, conduct a physical count (i.e., count the amount of actual stock on the shelf and record the balance on the stock card). Draw a (red) line under last balance entered on the stock card and mark the entry "physical count" (or PC) to indicate that a physical count has been done.

The purpose of a physical count is to—

- Verify the stock level of medicines and health supplies
- Verify the accuracy of stock-keeping records
- Detect losses of medicines and health supplies in the store
- Ensure all stock in the store is usable (not damaged or expired)
- Determine whether the stock will be used up before the expiry date or if you need to take action to redistribute.

When possible, the storekeeper and another member from facility management should conduct the physical count because it makes the task more accountable and easier with one recording and one counting.

If the actual number (quantities) available does not equal the amount or the balance stated on the stock card, you should record the actual amount (physical count) and then investigate the discrepancy.

Do this by—

- Checking the entries and arithmetic since the last physical count
- Checking with other staff members and ensuring all entries have been made
- Checking quantities dispensed in the dispensing log against the entries on the stock card
- Notifying your supervisors (e.g., in-charge, administrator, pharmacist, pharmacy technician, and DHO)
- Involving the police if necessary

Write your initials after conducting the physical count. If a discrepancy is found during the physical count and no obvious errors are found after checking, then the actual loss or gain has to be indicated on the stock card to correct the stock balance. Enter the quantities corresponding to the discrepancy in the column of losses/adjustments accordingly and note the change in the balance on hand column. Write an explanation in the remarks column explaining the discrepancy if needed.

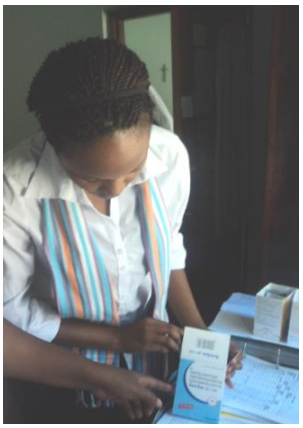
HOW TO CONDUCT A PHYSICAL COUNT

1. Set a date for the physical count. Select the physical count team. Participants should be selected from the facility. The storekeeper and pharmacist, if available, should be members of the team.
2. Prepare the store, make sure all cartons are neatly stacked and partial cartons are clearly visible.

3. Count unopened/complete cartons first. Multiply the number of cartons by the number of units in the carton. This will give the total number of medicine/item units in the carton.
4. Count open cartons. If an open carton contains unopened boxes, count the boxes and multiply the number by the number of units in a box. This will give the total number of the item units in the unopened boxes.
5. Count all the units that are in open boxes.
6. Add up the total units from the unopened cartons, unopened boxes, open boxes on shelves, in drawers, etc. This will give the total number of units of the items available in the store and dispensing facility, known as the actual quantity on hand.
7. On the stock card for the item, draw a line with a red pen through the next row of the stock card after the last calculated stock balance.
8. Record the date of the physical count in the next row; fill in the actual stock on hand under the stock balance column. Write any comments for losses or adjustments under the remarks column.
9. Write your initials after conducting the physical count. Draw another line under the row. This differentiates the physical count from the routine entries on the stock card.

Initially, balances for many medicines will need to be corrected. However, with time, there will be fewer corrections because entering every stock transaction will become routine. It is easier to have one individual be responsible for the stocks, but make sure that everyone in the health facility or department knows how to fill in the card and what a unit is.

The physical count also provides a good opportunity to check the expiry date on all your supplies.



KEY POINTS

- ➔ The stock card is a record of all transactions related to items received or issued out of the store. Each item should have a stock card
- ➔ Always record quantities in the stock cards using packs and not using tables or capsules. Define the Unit as packs or tin of i.e. 1000
- ➔ Recording in the stock card should be done as soon as an item is taken out or brought into the store – at every transaction. The stock should be up to date at all times
- ➔ A physical count of all items in the store should be done on a monthly basis and the stock cards updated when the physical counts do not match stock card figures

CHAPTER 6: STOCK BOOK

It is important to know which items the facility needs to stock. These are specified by the level of health facility in the Uganda essential medicines and supplies lists or the NMS catalogue. Not all items listed in the essential medicines and supplies list for your level of care are necessarily used at your facility. You should discuss which items are needed and should be stocked at your facility with the medical staff; these items should have a stock card and be recorded in the stock book, one on each page.

ADVANTAGES OF THE STOCK BOOK

Several of our neighbouring countries use stock books, but in Uganda, this is a new tool. However, the use of a stock book has several advantages, and as you become familiar with its use, you will see that it helps you in your stock management; for example, the stock book—

- Gives you a list of all the items in the stock control system; it is a reference book and by using it, items will not be left out accidentally
- Is used to do the physical count to ensure that no item is left out
- Is a resource book of all the information needed for ordering; you can sit in one place and write the order without running to the store many times
- Reduces the chances of making mistakes such as using the wrong codes
- Allows you to easily check if an order has been placed for an item
- Tells how much has been used, how much has been ordered, and when and how much needs to be ordered
- Makes it easier to calculate the adjusted AMC
- Summarizes the whole stock control system, providing an easy overview of transactions

HOW TO PREPARE A STOCK BOOK

The following steps describe how to prepare a stock book:

- Set aside one page for each consumable item kept in the store.
- Organize the stock book as you have organized your store. If your store is organized by dosage forms so you have tablets one place, mixtures one place etc., then your stock book should list all tablet formulations in the first sections, followed by mixtures in the next sections—organized similar to your store. This will allow you to match the information from the store to the stock book in a systematic manner without jumping between sections. You might even want to mark the different sections in the stock book.
- Leave 3–5 blank pages at the end of each section to cover the need for introducing new items in the section
- Fill in the index page in the stock book by recording the name of the item and the page it can be found in the stock book
- Fill in the header information as is done with the stock cards with item description (name, formulation, strength), pack size, item code.
- When recording in stock book, use the pack size as the unit of measure similar to the stock card. Do not use small units of measure like tablets or capsules, so that your work becomes easier and neater

- Summarize all the information from the stock cards in the stock book. A stock book makes ordering much easier
- Keep two stock books at your facility, one for medicines and one for supplies. In some higher-level facilities, you might even need a separate book for laboratory supplies.

HOW TO USE A STOCK BOOK

Update each page of the stock book once a month after the physical count and preferably just before ordering supplies. Take your stock book and go to the store room. Use the information on the stock cards to enter the following information:

- **Date:** The date when you are updating the stock book
- **Previous physical count:** Last month's physical count (the balance brought forward)
- **Quantity received:** Total quantity of stock received since the last monthly physical count (between the last two [red] lines on the stock card)
- **Quantity issued:** Total quantity of stock issued since the last physical count (between the last 2 (red) lines on the stock card)
- **Days out of stock**: Number of days the item was out of stock during the last month (0 stock on the stock card)
- **Losses and adjustments**: Total losses or adjustments reflected on the stock card during the previous month
- **Balance on hand:** This month's (current) physical count (the new stock balance)
- **Adjusted AMC:**

  Step 1: Every month you should calculate the monthly consumption adjusted for stock out days (adjusted MC). From the stock book example, when there is no stock out, you can see that the monthly consumption is the quantity issued (i.e., for January it is 15 and February, 18). In March, the monthly consumption is a bit more complicated because there are eight stock-out days. Here the monthly consumption is calculated as follows: (quantity issued)/ (days available) × 30 (to get adjusted issues for one month). For March taking the figures from the stock book you get: 13/ (30-8) = 17.7 tins rounded to 18 tins.

  Step 2: When you place your order you will need to calculate your adjusted AMC based on the 3 last months. This is easy to calculate from the adjusted MC by adding up the last three months' issue figures and divide by three. The AMC for March can then be calculated as 15+18+18 = 51 and divided by 3 is 17. That figure you should put in brackets next to the MC. See the example in the stock book.
- **Maximum stock quantities**: The maximum stock quantity is five months for essential medicines, four months for ARVs, and three months for laboratory chemicals and consumables; multiply the AMC by five to get the maximum stock quantity. The example in the stock book for April is 19× 5 = 95
- **Quantity to order**: The order quantity is determined by subtracting the current stock balance from the maximum stock quantity; quantity to order could be nil if the current stock balance is more than the maximum stock level. Only fill in this column when making an order, which should be done on bimonthly (every other month) basis. The example from the stock book for April is: 95-54=41

- **Remarks:** Add any remarks or comments you may have.
- **Initials:** Add your initials after filling in the information in the row.
- **Adjusting AMC on the stock card.** Whenever you have calculated a new adjusted AMC and it has changed from the previous calculation you need to update the AMC on the stock card. Use a rubber to remove the old figure and write the new updated AMC. You need the AMC on the stock card so it is easy for you to see if you are overstocked when being in the store but the information can also be found in the stock book.
- **Checking for over stocking:** By comparing maximum stock quantity in the stock book with balance on hand it is easy to see if you are overstocked and need to consider redistribution. If "balance on hand" is more than "maximum stock quantity" you are over stocked and you need to consider if redistribution is needed.

Figure 7: HMISFORM 083 Filled in Stock Book

Item description (name, formulation, strength): Contrimoxazole tabs 480mg								Pack size: Tins of 1000's		Item code No: 220185	
Date	Previous Physical Count	Quantity Received	Quantity Issued	Days out of stock	Losses & adjustments	Balance on hand	Adjusted AMC	Maximum stock quantities (=AMC*5)	Quantity to order (=Maximum stock quantities. Balance on hand)	Remarks	Initials
30/01/10	76	Nil	15	0		61	15				TR
28/02/10	61	Nil	18	0		38	18(17)	85	47		TR
30/03/10	38	40	13	8	+1	66	18			Lost & found	TR
30/04/10	66	Nil	12	12		54	20(19)	95	41		TR
30/05/10	54	Nil	16	0		38	16				TR
30/06/10	38	45	19	4		64	22(19)	95	31		TR
30/07/10	64	Nil	17	0		47	17				TR
30/08/10	47	Nil	20	0	-2	27	20(20)	100	73	damaged	TR

Other recommendations related to using the stock book include the following—

- Remember to update your stock book every month after the physical count.
- Using the stock book will make it easy to fill in the NMS and JMS order forms.
- Apply the same principles for laboratory commodities. When filling in the stock book, take note of the issue unit for different laboratory commodities (e.g., box of 1000).
- Start at the beginning of the stock book and check each item. Fill in the NMS or JMS order forms with the quantity to be ordered for each item. See details on how to order in Chapter 7.
- Fill in the stock book monthly with information from the stock card following a physical count. Order every two months.

Calculating Average Monthly Consumption

MC (when no stock-out)

$$Quantity\ issued\ for\ the\ month = MC$$

Example from the stock book: (January) =15

MC (with adjustment for stock-out days)

$$\frac{Quantity\ issued}{Number\ of\ days\ item\ was\ available} \times 30 = MC$$

Example from the stock book: (June)

$$\frac{19}{(30-4)} \times 30 = 22$$

Adjusted AMC

$$\frac{Sum\ of\ last\ 3\ month\ MC}{3} = AMC$$

Example from the stock book (April, May and June)

$$\frac{20+16+22}{3} = \frac{58}{3} = 19.33 \approx 19$$

Fill in the MC every month in the stock book, and when you are ready to order, calculate the AMC based on the last 3 months as illustrated above. So, if you were to order in June, your AMC would be 19.

Calculating Months of Stock

Months of stock is the number of months a product will last based on the present consumption rate. When stock status is reviewed, determine how many months of stock the facility has. Three months of stock means that the stock will last three months, as long as consumption remains at the current rate. By reviewing stock status, you will be able to determine if the facility or unit is under-stocked, overstocked, or adequately stocked. If under-stocked, it may be necessary to place an emergency order. If overstocked, it may be necessary to redistribute the stock to other facilities.

To determine the months of stock or how long your stock will last, divide the stock on hand by the AMC to obtain the months of stock.

$$\frac{Balance\ on\ hand}{AMC} = months\ of\ stock$$

An example using information from the stock book for 30 June:

Balance on hand (this month's physical count): 64. Your AMC calculation based on the last 3 months (June, May, and April) is (22+16+20)/3 = 19. Thus, your months of stock value is: 64/19= 3.37, rounded to 3.4 months

When expressing months of stock, use only one digit after the decimal point.
Note: Monthly consumption is the most important figure and is the basis of the stock control system; it must be calculated and accurately recorded in the stock book every month and it will allow you easily to calculate adjusted AMC based on 3 months. When you have calculated AMC based on 3 months consumption, you can record it in the stock book in brackets after the MC. See the example in the stock book for i.e. August and June.

Review and record the MC in the stock book every month. It may change, depending on the season or other factors. Your supervisor will expect to see the MC recorded every month in your stock book.

Some items (e.g., antimalarial medicines) are issued much more frequently at specific times of the year than at other times. Calculating the minimum and maximum stock levels then becomes more difficult. If the malaria season is approaching, use the information on the stock cards and the stock book for the previous peak malaria season to estimate your needs.

Calculating Maximum and Minimum Stock Levels

Maximum stock level = AMC × 5

Minimum stock level = AMC × 2

The quantity to order is determined by subtracting the stock balance (obtained from the stock book) from the maximum stock level.

Example from the stock book for ordering end of August: (20 x5) =100 - 27= 73

Maximum stock is the quantity of an item that should not be exceeded in the store. It is equivalent to five months of stock. Keeping more than five months of stock means that the facility is keeping a lot of funds in the stock, and these funds could have been used to procure other items. In addition, this increases the chances that items will expire and may, in some cases, lead to misuse, theft, or burglary.

The minimum stock is the amount of supplies below which the quantity in stock should not go. In Uganda, this value is two months of stock. There is a risk of stock-outs when health commodities go below these levels.

By having a minimum of two months of supplies, the facility should not run out, even if requisitions are delayed getting to the medical stores, deliveries are incomplete, or NMS/JMS is temporarily out of stock of the item.

Minimum and maximum quantities have to be calculated regularly because they vary with the AMC. They should be expressed in terms of quantities, i.e., number of pack units.

Laboratory Commodities

The source of consumption information may differ for different laboratory commodities; for example—

- *Prepared reagents*: Issues on the stock card determine consumption, but it may be difficult to ascertain the exact quantity used in the testing process
- *Reagents for CD4+ count and other automated equipment*: Consumption is based on machine uptake and number of tests carried out; quantification of such reagents is based on morbidity, testing guidelines, number of controls per day, rinsing intervals, etc. However, stock card information can and should be used.
- *Test kits*: Consumption records are used (e.g., daily consumption log, laboratory register) together with stock card information.

The resupply system for laboratory commodities is not based on what is issued from the store only, but also on the number of tests performed. Most losses occur during performance of the tests (e.g. spillage, invalid results), which is not captured by the stock card. Therefore, daily activity registers should be considered when calculating laboratory commodity quantities to order. It is therefore a good idea when preparing the order of laboratory supplies that it is based on issue data from the stock card and laboratory consumption information and that the order is done in collaboration between the store keeper and laboratory staff.

KEY POINTS

- ➔ The stock book summarizes transactions for all items in the store on a monthly basis
- ➔ The stock book should be filled in on the same date every month after carrying out a physical count of the items
- ➔ Orders should be prepared every second month in accordance to the order delivery schedule. Ordering should occur after updating the stock book
- ➔ The stock book will give you a trend on consumption for different items over a long period because data can be recorded for up to 24 months

CHAPTER 7: STARTING A STOCK MANAGEMENT SYSTEM

An easy way to start a well-organized store room and stock management system is by following these steps—

1. Enter all the consumable items the health facility uses into a new stock book using the NMS or JMS catalogue or order notes to get item information.
2. Take the stock book to the store room and arrange all the items on the shelves in the same order they are recorded in the stock book.
3. Make a stock card for every item and record the exact number of units on the shelf as the balance. Place each card next to its item on the shelf.
4. Identify one person to set up and be responsible for the store room.
5. Teach everyone in the department or clinic how to record on the stock cards, in case the person manning the store is away.
6. After a month, you will be able to estimate AMCs for each item. Record this on the stock card and in the stock book.

You are now ready to maintain an efficient and organized stock control system.

KEY POINTS

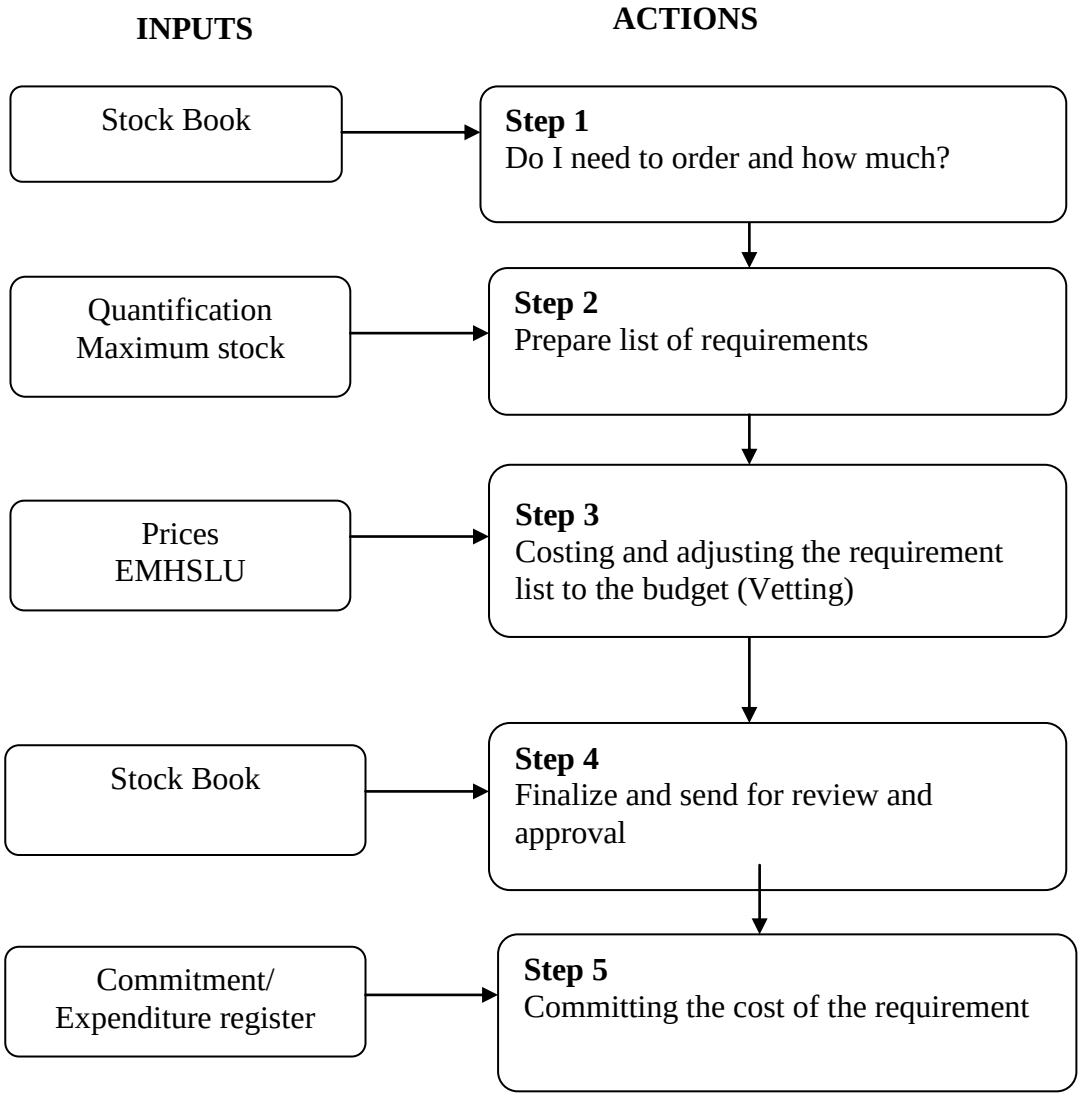
- ➔ Good stock control ensures that the right medicines and health supplies are available in the right quantity and at the right time
- ➔ The national stock management system is based on knowing past consumption to predict the quantity needed in the future
- ➔ The tools used for careful recording are the stock card and the stock book
- ➔ A physical count must be completed once every month before an order can be made to NMS or JMS
- ➔ The maximum stock is the quantity that can be used in five months and must be carefully calculated for every item in the store after determining the AMC. The AMC determines how much to order
- ➔ All facilities regardless of level should fill in stock cards and stock books

PART 4: ORDERING SUPPLIES

All consumable medical supplies, including contraceptives, laboratory commodities, and vaccines, should be systematically controlled and ordered. The system described in this manual is applicable to all items independent of procurement source. This part will describe the procedures for ordering (e.g., from NMS) and completing requisitions. Sometimes an emergency occurs; therefore, instructions are provided on how to make special orders. Finally, the procedures related to vetting and costing are described.

CHAPTER 8: HOW TO ORDER SUPPLIES

Error! Reference source not found. illustrates the steps for preparing an order, which are then escribed in detail as follows.



Adapted from Ministry of Health and Child Welfare Directorate of Pharmacy Service. 2006. Managing Pharmaceuticals and Ordering, stock management Module. Harare: republic of Zimbabwe

STEP 1. DO I NEED TO ORDER AND HOW MUCH?

Every two months, or in accordance with a schedule agreed upon with the national supplier, the facility must prepare a product order. Start in plenty of time so that you are sure to meet the supplier's or DHO's deadlines for submission of orders.

To start, make a physical count of each item in the store room, enter the figures onto the stock card and use a red pen to draw the line, and then enter the physical count into the stock book.

Which items should be ordered

For every item in the stock book, compare the recorded "balance on hand" (this month's physical count) with the recorded "Maximum stock quantities". If the balance on hand (physical count) is more than the maximum stock level, an order is NOT needed. If the balance on hand figure is less than the maximum stock quantities, then an order is needed. (maximum stock level is five months of stock for most medicines.)

How much to order

Using the stock book you can determine the quantity to order. Subtract the figure recorded under balance on hand from the figure recorded under maximum stock quantities. This gives you the amount to order:

Quantity to order = Maximum stock quantities – Balance on hand

Enter the figure in the quantity to order column in the stock book. Go through all items in the stock book in a similar manner and decide whether to order, and if an order is to be made, calculate the quantity to order and enter the quantity to order in the stock book.

Taking the example form the stock book for August:

Balance on hand = 27; Maximum stock quantities = 100;

Quantity to order: 100 – 27 = 73

You should respect the suppliers' minimum units of issue when making an order. For example, if the minimum unit of issue is 50, the quantity ordered should be in multiples of 50 (50, 100, 150, etc.). This issue is minimised by introducing pack size instead of single units such as tablets.

When to order

Order processing should be linked to the supplier's (NMS) order and delivery schedule. Lower-level health facilities have to follow a schedule provided by the DHO, which needs to have the orders in time to review, endorse, and transmit to the suppliers (NMS, JMS, etc.). Presently HC II and III do not prepare an order because they receive kits.

What to order

Only order those items that are authorized for and needed by the facility (as indicated by the NMS catalogue and EMHSLU). The lists have classified all supplies for use from a specific "level of care" that you can see in Figure 8 below. If the level of care for an item is marked

"hospital", then only hospitals and levels above can order this item. If your level of health facility is not authorized to order an item, it will not be sent.

Figure 8: Sample Page from the EMHSLU 2012

MEDICINE	DOSAGE FORM	STRENGTH	LEVEL OF CARE	VEN
Albendazole	Tablet	400mg	HC2 (HC1)	V
Antischistosomals				
Praziquantel	Tablet	600mg	HC4	E
Antibacterials				
Beta-lactam medicines				
Amoxicillin (as trihydrate)	Tablet	250mg	HC2	V
Amoxicillin (as trihydrate)	Capsule	500mg	HC2	V
Ampicillin (as sodium salt)	powder for injection	500mg	HC3	V
Azithromycin	Tablet	250mg	RR	N
Azithromycin (as monohydrate)	oral suspension	200mg/5mL	HC2	N

STEP 2. PREPARING A LIST OF REQUIREMENTS

To order from NMS you need to fill in an order form, also called a requisition. Because your available funds will probably not allow you to order all the items in need and in the quantities calculated in the stock book as needed, you will first need to prepare a requirements list.

The requirements list helps you cost and vet the order to fit it to the available budget. Always use the VEN classification in the EMHSLU to prioritize your order.

Choose a quiet time to write, prepare the requirement list and make the orders to avoid disturbances. Take a blank sheet of paper and a ruler, and with information from your stock book, prepare a list of all the items you would like to order if funds were not a problem. Go through page by page in your stock book and list those items for which you recorded a number in the "Qty to order" column. Include the item name/strength and the unit size information from the stock book, so that you can clearly identify the item, and the quantity to order, and then list the VEN classification from the EMHSLU (See Figure 9).

Figure 9: Requirements List

Item	VEN	Unit	Quantity to order	Unit cost	Total cost (quantity x unit cost)
Mebendazole 500 mg	E	1.000	20		
Amoxicillin 250 mg	V	1.000	9		
Benzyl benzoate 25%	N	1 btl 100 ml	50		
Cetrimide + chlorhexidine sol 0.15% + 0.015%	N	1 btl 500 ml	5		
Co-trimoxazole tabs 480	V	1.000	23		
Doxycycline 100 mg	V	100	90		
Magnesium trisilicate compound 250+120 mg	E	1000	5		
Paracetamol 500 mg	E	1.000	12		
Calamine lotion 5% 100 ml	N	1 btl	7		

Based on the requirements list, you can now calculate the cost of what you would procure if sufficient funds are available. This requirements list will enable you to cut items based on the available funds and VEN classification before filling in the NMS order form.

It is important to note that some items are supplied free of cost to the health facility (i.e., the items do not reduce the health facility credit line and hence should not be included when costing and vetting the order). Current examples include artemether/lumefantrine tablets, ARVs, fluconazole tabs, contraceptives, and anti-TB medicines. The suppliers (NMS or JMS) or MOH programs will periodically update the health facilities on which items belong in this category. Use a separate page of the order form when ordering these “free” items.

STEP 3. COSTING AND ADJUSTING TO BUDGET

To work out how much an order will cost, you need up-to-date price information. However, prices change all the time, and you will need the most recent supplier (NMS) price list or catalogue available. The most recent invoice from the supplier can also provide price information when updated price catalogues are not accessible.

Calculating the Cost of Order

All you have to do is to multiply the unit cost of the item by the number of units being ordered to find the total cost for each item. Add up these totals to find the total cost of the whole order. If you write in the prices as you go along, it will not take much time, especially once you are experienced, and you know the most recent prices.

Step-by-step instructions are given below for working out the estimated cost of your order:

1. As you write down each item that you intend to order, write its price in the “Unit cost” column on the requirements list sheet. The price you should use is the latest price obtained from NMS price list or the invoice from when you last received it.
2. You might want to record the price in the stock book so it is easier to get the price next time, because you are using the stock book to decide how much to order anyway. Update these prices with new prices indicated on the invoices or from the price lists.

3. Using a calculator, multiply the unit cost by the unit quantity that is being ordered and write the figure in the column marked "Total cost" (round off to the nearest Uganda shilling [UGX], 100, 1,000, or 10,000, depending on the UGX value, to make calculations easier).
4. Add up the total cost.

Figure 10: Costed Requirements List

Item	VEN	Unit	Quantity to order	Unit cost	Total cost (quantity x unit cost)
Mebendazole 500 mg	E	1.000	20	5300	106000
Amoxicillin 250 mg	V	1.000	9	32750	294750
Benzyl benzoate 25%	N	1 btl 100 ml	50	1050	52500
Cetrimide + chlorhexidine sol 0.15% + 0.015%	N	1 btl 500 ml	5	37900	189500
Co-trimoxazole tabs 480	V	1.000	23	15200	349600
Doxycycline 100 mg	V	100	90	2900	261000
Magnesium trisilicate compound 250+120 mg	E	1000	5	3900	19500
Paracetamol 500 mg	E	1.000	12	7700	92400
Calamine lotion 5% 100 ml	N	1 btl	7	1450	10150
					1,375,400

You are now ready to do the vetting.

Adjusting to the Available Budget

The total cost that you have just calculated is now compared to the budget allocated for medicines and health supplies. How to find out about the budget and how to keep track of expenditures can be found in the *Pharmaceutical Financial Management Manual*. The total cost you have just calculated is now compared to your bimonthly budget (if you order bimonthly), and if the cost is higher than your budget you will need to revise your requirement list to reduce the total cost and remain within the available budget.

Revising the total cost of the order should be based on VEN prioritization.
The first step in the vetting (as illustrated in Figure 11) is to remove some or all of the N items and recalculate the costing. If the total cost is still above the budget, remove or reduce the quantities of E items. Only when all E items are removed can you consider reduction of quantities of V items to fit your budget. When the cost of the list of requirements is within the bimonthly budget, transfer this information and fill in the supplier's (NMS) blank order form, HMIS 085. The vetting should be done for all your medicines and health supplies together because they are taken from the same budget. Laboratory supplies have a separate budget, and you should follow the same practices when ordering laboratory supplies.
In the example in Figure 11, the annual budget is UGX 6 million. This gives you a budget of (6.000.000/12 month) = UGX 500.000 per month, and (500.000 × 2) = UGX 1.000.000 for 2 months (bimonthly). The estimated cost was in Figure 11, UGX 1.375.400. You will therefore need to cut to fit the available budget/funds of UGX 1 million.

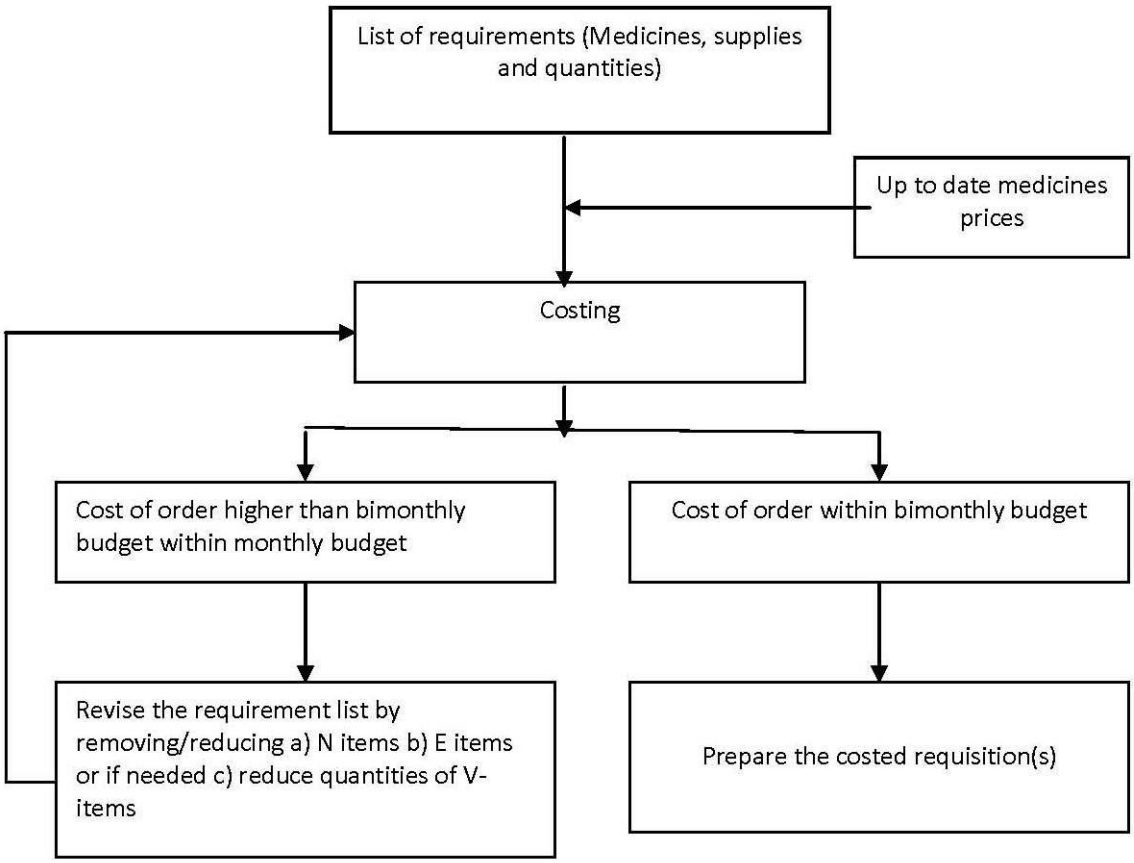
The process of vetting is easy to do using an Excel spreadsheet if you have access to a computer, but is also easy to do manually, although it takes more time. Keep the final requirements list in your files.

Figure 12 illustrates the entire process.

Figure 11: Requirements List Adjusted to Available Funds

Item	VEN	Unit	Quantity to order	Unit cost	Total cost (quantity × Unit cost)
Mebendazole 500mg	E	1.000	9	5300	47700
Amoxicillin 250 mg	V	1.000	9	32750	294750
Benzyl benzoate 25%	N	1 btl 100 ml	0	1050	0
Cetrimide + Chlorhexidine sol 0.15% + 0.015%	N	1 btl 500 ml	0	37900	0
Co-trimoxazole tabs 480	V	1.000	23	15200	349600
Doxycycline 100 mg	V	100	90	2900	261000
Magnesium trisilicate compound 250 +120 mg	E	1.000	0	3900	0
Paracetamol 500 mg	E	1.000	6	7700	46200
Calamine lotion 5% 100 ml	N	1 btl	0	1450	0
					999,250

Figure 12: Flowchart for Preparing Orders



Adapted from Ministry of Health and Child Welfare. Directorate of Pharmacy Service. 2006. Managing Pharmaceuticals and Ordering, Stock Management Module. Harare, Republic of Zimbabwe

STEP 4. FINALIZE THE REQUIREMENTS AND FILL IN THE ORDER FORM

Using the final costed and adjusted requirements lists, fill in the order form(s).

How to fill in an order form

When you are ready to start ordering, have the stock book and the HMIS 085 order form (Figure 14), some blank sheets, a calculator, and a pen on hand. Not all facilities use the HMIS 085 order form but instead they use the order form provided by NMS or JMS. Any order form will do as long as you fill it in following the steps described in this manual.

Order form for essential medicines and health supplies

Transfer the information from your requirements list to a blank order form for EMHS. The form is used to order all medicines and health supplies, including ACTs, laboratory commodities, TB medicines, contraceptives, and condoms. Note that the order should only include items permissible for the facility's level of care as listed in the EMHSLU. Make sure you enter the supplier's (NMS or JMS) code for each item as given in the catalogue.

Table 2: Fields to Fill in on the Order Form

Field on the order form	Action/explanation
Order to (NMS, JMS, other)	Specify the name of the supplier
Facility name	Fill in the name of the health facility
District	Fill in the name of the district to which the facility belongs
Level	Circle the level of care of the health facility (HC II, III, IV, or hospital)
HSD	Fill in the name of the HSD to which the facility belongs
Date	Fill in the date
Facility code	Fill in the facility code; on that same line, fill in the year and month; this will guide the supplier in tracking the order made by the health facility
Year	Fill in the year
Month	Fill in the month
Order no.	On that same line, fill in the order number, which is based on the number of orders made by the facility
Item code	These are found in the supplier's (NMS/JMS) catalogue; fill in this code for each item being ordered
Item description	Fully describe the items being ordered, including the name, dosage form, and strength
Pack unit	Fill in the pack unit of the item being ordered as given in the supplier's catalogue (e.g., for co-trimoxazole 480, the unit is a tin of 1,000 tabs)
Pack unit price	Fill in the price of each item as reflected in the supplier's catalogue
Quantity ordered	The quantity ordered is obtained by subtracting the current stock balance from the maximum stock level and depends on the AMC, which is in the

	stock book
Total cost	Transfer the calculated total cost from your prepared requirement list
Ordered by and signature and date	The person filling in the order form should write his or her name , then sign and include date next to the signature
Reviewed by and signature and date	The health facility in-charge should approve the order form by confirming that the cost of the order lies within the facility's budget (vote 116) as provided by NMS); the person should write his or her name, then sign and include date next to the signature
Confirmed by	The DHO should confirm that he or she agrees with contents therein and should write his or her name, sign and include date next to signature. For orders submitted directly to NMS or JMS, the DHO will not be confirming. However, ensure that a copy is send to the DHO.

Figure 13: Filled In Order Form

HMIS FORM 085: ORDER FORM FOR EMHS

Order to (NMS, JMS, Other): NMS | Facility Name: Kojja

District: Mukono | Level : II III IV General Hospital Referral Hospital

HSD: Mukono South | Date: 16th May 2011

Order details:
Facility Code: HF0828 Year: 2011 Month: May Order no: 3

Item Code	Item Description	Pack Unit	Pack Unit Price	Quantity Ordered	Total Cost (UGX)
220 390	Mebendazole 500 mg	1000	5300	9	47700
220 034	Amoxicillin 250 mg	1000	32750	9	294750
220 185	Co-trimoxazole tabs 480	1000	15200	23	349600
220 222	Doxycycline 100 mg	100	2900	90	261000
220 640	Paracetamol 500 mg	1000	7700	6	46200
	Total				999,250

Ordered by: Odeke Boniface | Approved by: Dr. Mulwana (in charge)

Signature & date: 16th May 2011 | Signature & date: 18 th May 2011

Confirmed by Dr Tumushabe DHO Signature & date: 18 th May 2011

Note: Incomplete orders might be returned to your district, causing delays.

The order forms are in triplicate. Send the original to the supplier; keep one copy at the health facility and the second copy at the DHO office where orders made by the HC IV are endorsed. Lower level facilities presently receive kits and do only order for special supplies i.e. laboratory

commodities. These orders go via the health sub district in-charge to the DHO. The DHO will forward the order to the NMS or NMS regional offices. Hospitals send their order directly to NMS and they keep a copy of the orders. However they should also send a copy of their order to the DHO.

Filing the order and the vetted requirements list

You must file your order and requirements list so that you can track your decision in preparing the order should you receive questions. You will also need to compare what you actually received to what you ordered. File the order and the vetted requirements lists together in a folder specifically for filing orders, requirements lists, and delivery notes. HC II and III, who do not order supplies, should still have a filing system for the delivery notes.

STEP 5. UPDATING THE COMMITMENT REGISTER

The commitment register enables you to keep track of how much of the budget has already been spent or committed and how much remains (the balance). “Committed” means that an order has been placed for something and will be paid for at some point in the future (e.g., an order submitted to NMS). In other words, a commitment has been made to spend that amount. How to keep a commitment register and undertake the financial management involved in ordering EMHS are explained in the *Pharmaceutical Financial Management Manual*.

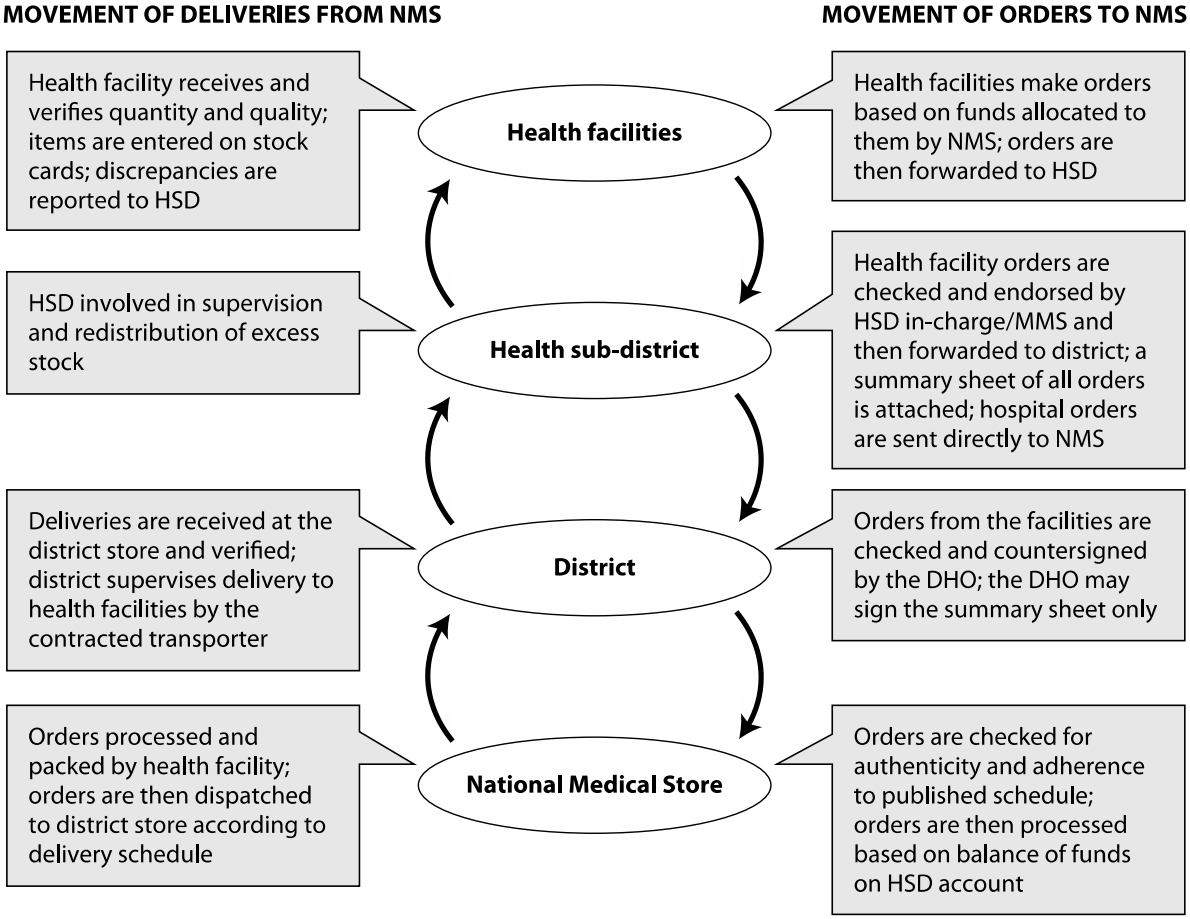
STEP 6. PROCESSING THE ORDERS

The summary below outlines the current system of placing orders with NMS. Figure 15 below illustrates the process of ordering and delivering credit-line medicines to lower-level health units in the public sector.

In summary—

1. The completed order form from lower level health facility should be sent via the health sub district in charge to the DHO. For HCIV the order is send to the DHO and for hospitals it is send directly to NMS or the regional NMS office. A copy should always be provided to the DHO in case of direct ordering.
2. The DHO reviews and approves orders and forwards them to NMS before the specified order deadlines. The order is in triplicate—the original goes to NMS, one duplicate remains at the DHO, and the third copy is retained by the health facility.
3. NMS now ensures “to the door” delivery in accordance with planned delivery schedules.
4. Previously TB supplies were handles in a parallel supply system and store at the district store. This system however has been streamlined and harmonised with other essential medicines and supplies and TB medicines are now supplied to the door by NMS together with other EMHS.

Figure 14: Flowchart Showing Movement of Credit-Line Orders and Deliveries for the Public Sector



Adapted from Ministry of Health Uganda. 2008. Medicines Management Manual: Medicines Logistics and Stores Management Procedures for Districts and Health Facilities. Kampala: Ministry of Health.

EMERGENCY ORDERS

There will be situations when the facility runs out or is likely to run out of V items before an expected consignment arrives from the supplier. Health facility in-charges should contact the HSD or DHO to explain the situation. The authorities may make arrangements for the facility to borrow from others within the district. If the facility still has a balance of funds with the supplier (NMS), arrangements can be made to place an order outside the normal schedule.

ORDERING AND REPORTING FOR SPECIAL PROGRAM ITEMS

Ordering for ARVs, TB medicines, and HIV test kits may require more information. HMIS Form 084, the Bimonthly Report and Order Calculation Form, should therefore be used (Figure 16). It should be filled in at the end of each reporting cycle (every two months). At that time, the stores personnel, laboratory personnel, or any other authorized person(s) managing the items at the health facility will use stock cards and dispensing logs to complete the Bimonthly Report and Order Calculation Form. The report and order is sent by the health facility staff to the central level data processing unit on a designated date at the end of the reporting period.

The objective of this report/order form is to provide stock on hand balances of items, report bimonthly usage, and to assist planners in determining quantities of commodities to resupply to the health facility. Follow the same principles as described previously when using this form to order ARVs, TB medicines, and HIV test kits.

How to Fill in the Bimonthly Report and Order Calculation Form HMIS Form 084

Header information

- **Facility name:** Write in the name of the facility. Example: Butebo HC IV
- **Report period:** Write in the beginning day, month, year, and ending day, month, and year of the specified report period following this format: DD-MM-YEAR to DD-MM-YEAR
- **Health sub-district:** Write in the name of the health sub-district where the facility is located. Example: Butebo HSD
- **District:** Write in the name of the district where the facility is located
- **Date prepared:** Write in the actual date when the form is completed

Description of columns

- **Item code:** Check in the NMS/JMS catalog and write the item code in this column
- **Item description:** Write the full name of the item to be ordered using the generic name, dosage form, and strength
- **Basic unit:** By checking the NMS/JMS catalog, identify and write the basic unit of the item to be ordered
- **Physical count at the beginning of the review period:** Enter the total number of items that were available at the beginning of the review period. The quantities can be obtained from the stock book by looking at the physical count done at the start of the review period; alternatively, get the figure from the last bimonthly report by looking at the physical count reports at the end of the last reporting period
- **Quantity received during the two months:** Enter the total quantity received by the facility from the official sources of supply (i.e., JMS/NMS) during the two-month reporting period. The quantities of each product received can be found in the quantity received column of the stock card.
- **Quantity used during the two months:** Enter the total quantity used during the two-month reporting period. The usage data comes from the dispensing log forms. Add up the totals from all the forms for the two months. Repeat the process for each item. You will need to retrieve all the forms you have completed for the two months you are reporting.
- **Average monthly consumption:** Divide the total quantities used in the two-month period by two.
- **Losses/adjustments:** Calculate the total losses/adjustments for the reporting period by adding losses/adjustments for the two-month period from the stock card to the losses and

wastage from each of the respective dispensing logs for the same period. Enter the total amount of losses and adjustments that occurred during the two months of the report period. **Adjustments** are quantities of a product either issued or received, from any source other than NMS or JMS. For example, you received 100 tests from a local nongovernmental organization (NGO), which would be A + 100 adjustment or you loaned 100 tests to another facility, which would be A – 100 adjustment).

Losses are quantities removed from your stock for anything other than testing samples at your facility (e.g., expired, lost, or damaged, recorded as negative number.)
If the total amount of the adjustments for the month is positive, write a plus (+) sign next to the number. Example: +3. If the total amount of the adjustments for the month is negative, write a negative (–) sign next to the number. Example: –3.

- **Number of days out of stock:** Enter the number of days the item was out of stock during the previous month

- **This month physical count:** This is based on the physical count that is done prior to filling of the bimonthly report/order form. Enter the amount of the physical count in Column 9 marked with F.

- **Months of stock:** Divide this month's physical count with the average monthly consumption. The result is the months of stock

- **Maximum stock quantity:** Calculate the maximum stock quantity and write this number in this column. The maximum stock level for essential medicines is five months, while for HIV tests, it is six months.

- **Quantity required:** Determine the number of packs to be ordered (i.e., the maximum stock quantity less the closing balance/stock on hand)

- **Remarks:** Use this space to explain losses/adjustments or other information on the data being reported

- **Prepared by:** Write in your full name, signature, designation, phone number, and the date

- **Reviewed by:** The reviewer writes in his or her full name, signature, designation, phone number and the date.

Figure 15: Bimonthly report & order calculation form

HMIS FORM 084: BI-MONTHLY REPORT AND ORDER CALCULATION FORM

Facility Name:…… Report Period:……. District: ……

Month/Year:…….. Health Sub District:……Date pared:…….....

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Item Code	**Item Description**	**Basic Unit**	**Physical count at beginning of review period**	**Quantity Received during two months**	**Quantity used during two months**	**Losses/ Adjustments (+/-)**	**Number of days out of stock**	**This month physical count**	**AMC**	**Months of stock**	**Maximum Stock Quantity**	**Quantity required(J)**
			A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J-1-F**
1												
2												
3												
4												
5												
6												
7												
8												

Remarks:

(**15) Prepared by: Full Name:**…… Signature:……. Designation:…… Phone No:……. Date:……

(16) Reviewed by: Full Name:…… Signature:……. Designation:…… Phone No:……. Date:……

Web-based ordering

An electronic version of the paper-based ARV ordering and reporting form is in the process of being rolled out. This form has some fields that auto-calculate which helps minimize calculation errors. If the facility has computer and Internet access, the form is filled out at facility level and sent directly to the supplier. Otherwise, the facility fills out the paper-based order form, forwards it to either the DHO or the implementing partner who has computer and Internet services, who then sends an electronic version to the supplier.

Reporting on stock-out days

Every month, the health facility records stock-out days of tracer and other medicines using HMIS 105, the health unit outpatient monthly report form (Figure 16). Stock-out days should be recorded in section 5.1.

Figure 16: HMIS 105 Form

HMIS 105 FORM: SECTION 5.1

6 Tracer medicines found in all levels of health facilities (HC II hospitals)		**No. of days of stock–out in the month**
First-line drug for malaria		
Co-trimoxazole tabs		
ORS sachets		
Measles vaccine		
Fansidar		
Depo-Provera		
All health facilities offering HIV/AIDS and TB treatment		
HIV testing kits	Screening	
	Confirmatory	
	Tie-breaker	
First-line ARVs	AZT/3TC/NVP	
	AZT/3TC	
	TDF/3TC	
	FTC	
	NVP	
	EFV	
First-line anti-TB medicine	HRZE	
	EH	
	RH	

Other items		
	Name of item	**Days out of stock**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

Table 3: Summary of Medicines Management Information Tools

Tool	What is recorded	Analysis
Order form	List of items Quantity to order Stock on hand Unit cost Item code	Value per item
Delivery note	List of items Quantities received Expiry date Date of delivery	Discrepancies in quantity Lead time
Invoice	List of items Quantities delivered Unit price Total value Balance on account	Order price vs. actual price
Stock card	Item description Expiry dates Storage conditions Quantity received Quantity issued	Balance on hand AMC Minimum stock Maximum stock Quantity to order Days of stock-out Months of stock
Prescription and dispensing log	Item description Patient number Diagnosis Quantity prescribed Quantity dispensed	Daily consumption per item Daily quantity prescribed Monthly consumption Days out of stock Rational medicine use indicators (e.g., number of drugs per case, percentage prescribed injections)
Stock book	Previous and present physical count AMC Losses/adjustments Quantities received/issued during the month Stock-out days during the month Maximum stock Quantity to order	Monthly consumption Number of days of stock-out Information on monthly stock status
Monthly report (HMIS 105)	Items that ran out within the month	

KEY POINTS

- ➔ Use your up-to-date stock book to prepare the order. Make a requirements list and determine the cost of the requirements using the most recent cost information from the supplier
- ➔ Adjust the order so that you can reduce the total cost to within the available budget. Give priority to Vital items first and then to Essential items
- ➔ Always prepare your order as soon as you conduct the physical count every other month
- ➔ Keep a copy of your order in a file for reference when you receive the items from the supplier

PART 5: RECEIVING AND ISSUING SUPPLIES

EMHS are valuable. Every health worker is responsible for ensuring that the goods listed on the delivery note and invoice is what has been received. The health facility will pay from their budget line for goods listed on the invoice. All discrepancies should therefore be noted and reported. This part of the manual describes how goods are delivered, the types of documentation accompanying the goods, the filing system that should be in place, how goods should be received and checked, and what to do if there are any discrepancies.

The policy is that NMS is responsible for delivering goods to the facilities, and for some commodities, to the district store. Organizing deliveries from JMS is still the facility's responsibility, but JMS is taking steps to introduce to-the-door deliveries as well.

CHAPTER 9: RECEIVING SUPPLIES

All deliveries should be received by a staff member at the district store or in the health facility. Ideally, the person who orders the products should receive the delivery. The receiving process involves counting items and scrutinizing documents and should preferably be done outside the store. To ensure that the process is transparent and minimize the chances of error, always have a second person participate in the exercise – a verification team. Usually, an independent person from the administration department will suffice. When possible, a member of the health unit management committee should be present when the medicines are received at the health facility.

The documents required during receiving are the—

- Delivery note in two copies (one for you and one for the driver/supplier)
- Invoice
- Copy of your order/requisition

RECEIVING PROCEDURE

1. Before the supplies arrive, prepare space and pallets to store the supplies.

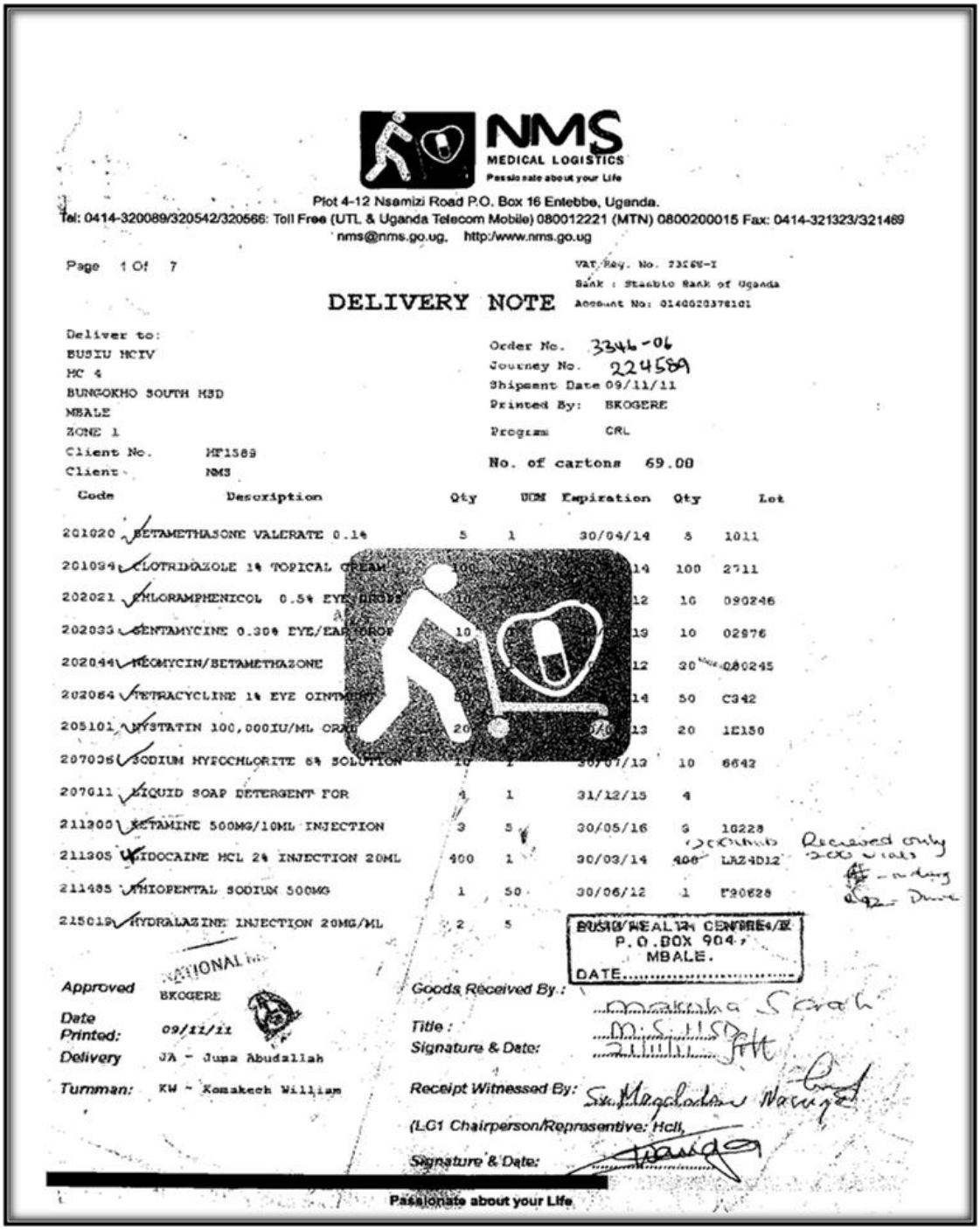
Ensure the supplies are for your facility

2. First check the documents delivered with the items to make sure the delivery is for your facility and that the shipment has your facility code. If there has been a mistake, reject the shipment and follow up with the supplier to find out when you can expect your order.

Check the boxes

3. Count all the boxes and check that the quantity of boxes corresponds with the quantity recorded in the delivery note (Figure 18).
4. Check that the carton boxes are unopened.
5. Check that the carton boxes are in good order and not broken. If an item is missing or damaged, it must be recorded on the delivery note.

Figure 17: Example of Delivery Note from NMS



NMS
MEDICAL LOGISTICS
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Plot 4-12 Nsamizi Road P.O. Box 16 Entebbe, Uganda.
Tel: 0414-320089/320542/320566: Toll Free (UTL & Uganda Telecom Mobile) 080012221 (MTN) 0800200015 Fax: 0414-321323/321469
nms@nms.go.ug. http:/www.nms.go.ug

Page 1 Of 7

VAT Reg. No. 23268-I
Bank : Stanbic Bank of Uganda
Account No: 0140020378101

DELIVERY NOTE

Deliver to:
BUSIU HCIV
HC 4
BUNGOKHO SOUTH HSD
MBALE
ZONE 1
Client No. MT1589
Client NMS

Order No. 3346-06
Journey No. 224589
Shipment Date 09/11/11
Printed By: BKOGERE
Program CRL
No. of cartons 69.00

Code	Description	Qty	UOM	Expiration	Qty	Lot
201020	BETAMETHASONE VALERATE 0.1%	5	1	30/04/14	5	1011
201024	CLOTRIMAZOLE 1% TOPICAL CREAM	100		14	100	2711
202021	CHLORAMPHENICOL 0.5% EYE DROPS	10		12	10	090246
202033	GENTAMYCINE 0.30% EYE/EAR DROP	10		13	10	02976
202044	NEOMYCIN/BETAMETHAZONE	20		12	20	080245
202064	TETRACYCLINE 1% EYE OINTMENT	50		14	50	C342
205101	NYSTATIN 100,000IU/ML ORAL	20		13	20	1E150
207036	SODIUM HYPOCHLORITE 5% SOLUTION	10	1	30/07/13	10	6642
207011	LIQUID SOAP DETERGENT FOR	4	1	31/12/15	4	
211200	KETAMINE 500MG/10ML INJECTION	3	5	30/05/16	3	10228
211305	LIDOCAINE HCL 2% INJECTION 20ML	400	1	30/03/14	400	LAZ4D12
211485	THIOPENTAL SODIUM 500MG	1	50	30/06/12	1	F20628
215019	HYDRALAZINE INJECTION 20MG/ML	2	5			

Received only 300 vials

BUSIU HEALTH CENTRE IV
P.O.BOX 904,
MBALE.
DATE.....

Approved BKOGERE
Date Printed: 09/11/11
Delivery JA - Juma Abudallah
Turnman: KW - Komakech William

Goods Received By.: Makuha Sarah
Title : M.S. HSA
Signature & Date: 21/11/11
Receipt Witnessed By: Sr. Magdalena Nawuge
(LC1 Chairperson/Representive: Hcll,
Signature & Date:

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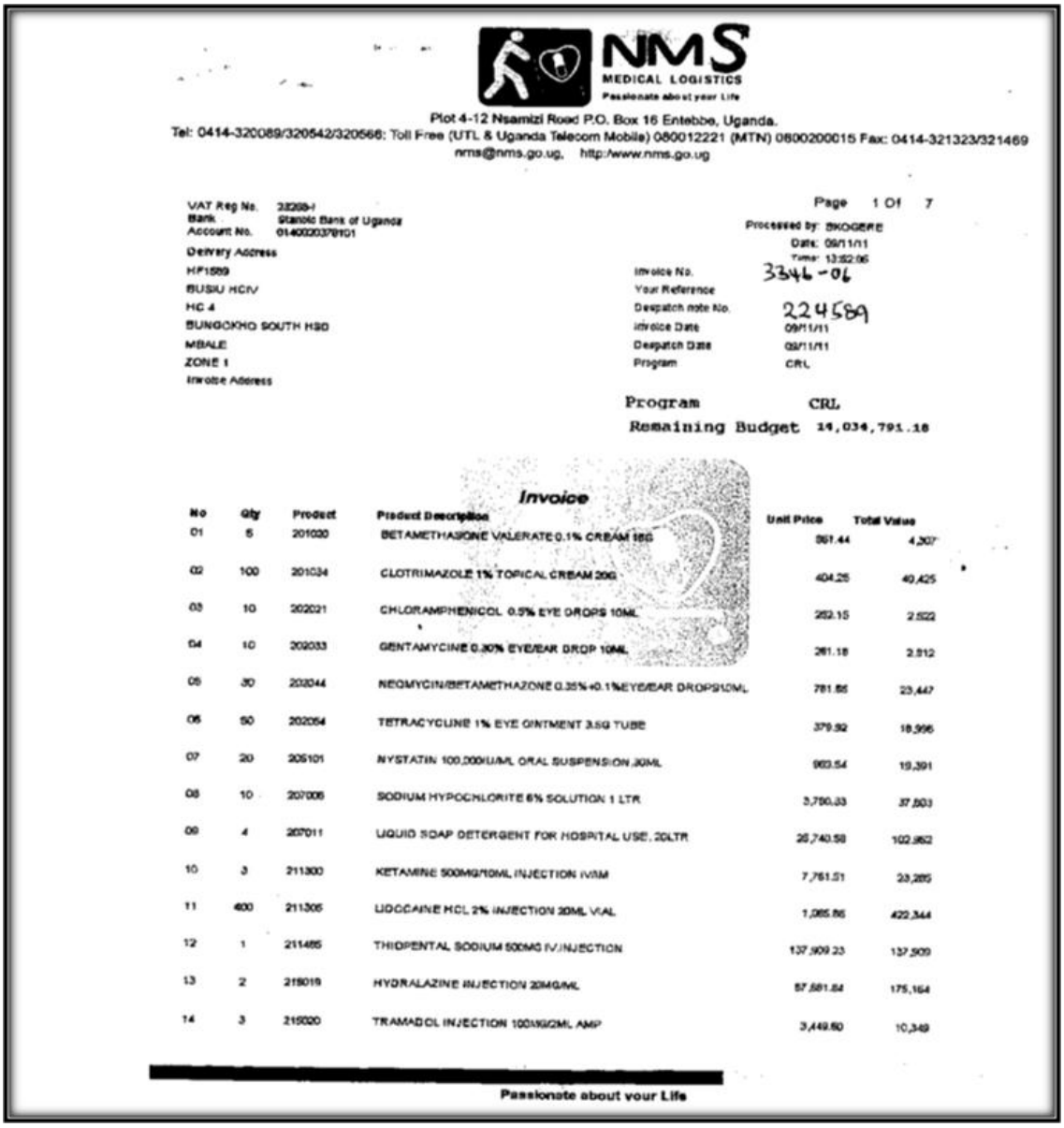
Check the documents

6. Now you need to do a thorough document check. Compare the delivery note with your order or requisition found in your file. For facilities receiving kits compare the shipment with MOH supplies list for kits for levels II and III. You must check the documents before unpacking the goods so you know if you have received what you ordered.
7. If your order has been sent through the DHO for approval, ensure that you get a copy of the approved order that reflects changes that may have been made. Otherwise, you cannot compare your order with what was actually delivered. Now compare the order details in the delivery note and the order details in your filed copy of your order or for facilities

receiving kits, compare with the MOH supplies list for kits by checking that the quantity, unit size, unit price, are the same.

8. Ensure you have also received an invoice and make sure that it is filed. It tells you the price of each item, the total cost, and your budget (Figure 18).

Figure 18: Example of an Invoice from NMS



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Tel: 0414-320089/320542/320566; Toll Free (UTL & Uganda Telecom Mobile) 080012221 (MTN) 0800200015 Fax: 0414-321323/321469
nms@nms.go.ug, http:/www.nms.go.ug

VAT Reg No. 3[illegible]
Bank Stanbic Bank of Uganda
Account No. 01400[illegible]
Delivery Address
HF1589
BUSIU HC IV
HC 4
BUNGOKHO SOUTH HSD
MBALE
ZONE 1
Invoice Address

Page 1 Of 7
Processed by: BKOGERE
Date: 09/11/11
Time: 13:52:06
Invoice No. 3346-06
Your Reference
Despatch note No. 224589
Invoice Date 09/11/11
Despatch Date 09/11/11
Program CRL

Program CRL
Remaining Budget 14,034,791.18

Invoice

No	Qty	Product	Product Description	Unit Price	Total Value
01	5	201020	BETAMETHASONE VALERATE 0.1% CREAM 15G	861.44	4,307
02	100	201034	CLOTRIMAZOLE 1% TOPICAL CREAM 20G	404.25	40,425
03	10	202021	CHLORAMPHENICOL 0.5% EYE DROPS 10ML	252.15	2,522
04	10	202033	GENTAMYCINE 0.30% EYE/EAR DROP 10ML	281.18	2,812
05	30	202044	NEOMYCIN/BETAMETHAZONE 0.35%+0.1%EYE/EAR DROPS10ML	781.55	23,447
06	50	202054	TETRACYCLINE 1% EYE OINTMENT 3.5G TUBE	379.92	18,996
07	20	205101	NYSTATIN 100,000IU/ML ORAL SUSPENSION 30ML	969.54	19,391
08	10	207006	SODIUM HYPOCHLORITE 6% SOLUTION 1 LTR	3,750.33	37,503
09	4	207011	LIQUID SOAP DETERGENT FOR HOSPITAL USE, 20LTR	25,740.58	102,962
10	3	211300	KETAMINE 500MG/10ML INJECTION IV/IM	7,761.51	23,285
11	400	211306	LIDOCAINE HCL 2% INJECTION 20ML VIAL	1,055.86	422,344
12	1	211465	THIOPENTAL SODIUM 500MG IV/INJECTION	137,509.23	137,509
13	2	215019	HYDRALAZINE INJECTION 20MG/ML	87,581.64	175,164
14	3	215020	TRAMADOL INJECTION 100MG/2ML AMP	3,449.60	10,349

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Check physical quantities

9. Physical check will be done when you unpack your deliveries. Unpacking often is done AFTER the driver has left. However, this does not mean that you cannot complain if something is wrong so be sure to do a thorough check and always do the unpacking in presence of a verification team.
10. Now you need to open the carton boxes and inspect the items received. Do a physical count of all items you have received and ensure they are the same as those listed on the delivery note.
11. For medicine kits, the same procedure should be applied because discrepancies between the delivery note and actual delivery might also occur and NMS should be informed about such discrepancies.

12. For all deliveries, each item needs to be checked off (✓) on the delivery note if the received quantity matches the delivery note. You should not check against your order because that has already been done during the document check.
13. Pay special attention to expiry dates and reject items with short expiry dates, particularly if it is unlikely that they will be consumed before they expire.
14. Always check the packaging materials properly before discarding them. Small items may be hidden in there.

Check physical quality

15. **Check items that require cold storage first** (e.g., vaccines). If they are not packed in cold packs, return those items to the supplier.
16. Check the colour of medicines, vaccines, laboratory reagents, and test kits. If medicines or vaccines are discoloured, they have deteriorated. Do NOT accept them.
17. Check for broken containers and leaks. Carefully remove broken containers. If there is a leak, remove any supplies damaged by the leak.
18. Check for unsealed or unlabelled items. Broken seals indicate that someone may have tampered with the items. It is dangerous to use unlabelled items. Do NOT accept them.
19. Open sealed containers only if you suspect deterioration. Once opened, check the quality.
    a. Check for unusual odours of tablets and capsules—they may have deteriorated.
    b. Check for broken, powdery, or sticky tablets and capsules. Check for cracked or swollen capsules. Do NOT accept any damaged tablets or capsules.
20. Check injectable liquids. Shake the vial. Hold the vial to the light. Clear liquids should have no particles that reflect light. If a vial has small particles, the medicine has deteriorated.
21. Put any damaged or not accepted goods or poor-quality medicines in a box to return to the supplier. Return those supplies at the earliest opportunity.

Signing off the delivery

22. If all is okay and there are no discrepancies, the delivery note should be signed by the facility staff person checking the order and by the individuals who delivered the consignment. You need to write: received date, name(s), and signatures. Sometime there is no time to do the physical checks while the driver is there, but you should always check step 1-8 before signing off on the delivery note.
23. **If there are discrepancies,** indicate on the delivery note any discrepancies observed from the box check, the document check or the physical check (e.g., if a box is missing, or there were differences in what you ordered and what you received, or there is a difference between what was received and what the delivery note says, or if items have been found broken or of poor quality).
24. Fill in a discrepancy report, which can be sent back to the supplier together with the delivery note. When reporting discrepancies to NMS, you must use their special discrepancy report form called Customer Complaints Form. Both forms contain similar information.
25. When you have recorded the discrepancies on the delivery note and filled in a discrepancy report, you can sign the delivery note as stated above. (See the next chapter on how to fill in the discrepancy report.)
26. Return the original signed delivery note with the discrepancies, if any, to the supplier and file the signed copy of the delivery note with recorded discrepancies.

27. Return the original discrepancy report with the delivery note and file a copy. It is important to keep a copy so you can follow up and see that your budget has been changed to reflect the discrepancy.
28. The DHO should always be informed about any discrepancies following the chain of command.

Discrepancies discovered after delivery

29. If facility staff notices discrepancies in the order after the delivery trucks have left, fill out the discrepancy report and alert the person in charge of procurement so that the problem can be followed up with the supplier.

UPDATE THE STOCK CARDS

As soon as the delivery note has been signed and the truck has left you should get all your supplies into the storage area and record all the entries on the stock cards; if you leave it until later, you may forget to do it.

Never start using supplies from a consignment before the items are entered on their stock cards. File all the paperwork, requisitions, delivery notes, and discrepancy reports chronologically and store them for at least six years.

WHAT TO DO IF THE ORDER DOES NOT ARRIVE

When a consignment arrives in the district, but no delivery is made to your facility, make an enquiry with the HSD who will follow up with the DHO's office. The DHO's office will contact NMS and report back to the facility on the status of the order in question. When required, provide details of the order (e.g., the order numbers and the date the order was placed).

KEY POINTS

To minimise problems encountered during receiving:
- ➔ Check the delivery note and invoice and carefully compare them with the shipment sent
- ➔ Check the items and ensure they are the correct quality and quantity
- ➔ Immediately note and report in writing all discrepancies
- ➔ Have an independent person witness all receiving activities

CHAPTER 10: DISCREPANCY REPORT

A discrepancy occurs if there is a difference between what has been received and what is written on the delivery note or if the items received were not of good quality. This has to be brought to the attention of the supplier (NMS or JMS) so the anomaly can be corrected. Failure to alert the supplier means that you will pay for items that the facility did not receive or want.

NMS only accepts discrepancy reports for a period of up to two months after delivery.

A discrepancy report form should always accompany the delivery note. If the order is satisfactory, do not fill in the discrepancy report form.

Only fill in the discrepancy report form under the following circumstances—

- **Boxes or items are missing or broken**
  If the boxes have been opened or damaged, ensure that the transporter signs the delivery note to this effect and takes the responsibility. If the boxes were not damaged, but items are missing or damaged, then the medical stores may be at fault. Fill a discrepancy report and send the damaged items to the supplier (NMS) through the driver and inform the DHO.
- **Items were received that were not ordered or were poor quality, and then returned**
  Fill in the discrepancy form and send it to the NMS together with the unwanted or poor quality goods through the DHO or with the delivery truck.

FILLING IN THE DISCREPANCY REPORT

Figure 19 and Figure 20 shows examples of discrepancy report forms. The order number must be written on the discrepancy report to enable the medical store to follow up on the report.

The NMS discrepancy report is known as the National Medical Stores Customer Complaints Form (Figure 20).

Frequent discrepancy reports indicate a problem with the supplier or transporter, which can only be solved if the problems are reported. If the discrepancy reports are not filled in, the facility will be asked to pay for items that were not delivered. Both the NMS form (Figure 20) and the HMIS form (Figure 19) can be used to report discrepancies

Figure 19: Example of a Filled in Discrepancy Report

HMIS FORM 087: DISCREPANCY REPORT

Date : 21st Nov 2011	Order No: 3346-06	Delivery note Number:
Name Health Facility: Busiu Level of Health Facility: HC IV		HSD: Bungokho South District: Mbale
Number of boxes on packing list: 69		Number of packs received: 69
Details of discrepancy: 200 vials of Lignocaine injection received instead of the 400 vials on the delivery note		
Details of breakages: NA		
Details of missing items: NA		
Details of items received not ordered for: NA		
Any other item discrepancy		

Item Description (name, formulations, strength	**Quantity on Delivery note**	**Quantity Received**	**Reasons for not receiving right quantity**
Lignocaine HCL 2% injection 20ml	400	200	Not delivered in the consignement

Clint section	Transporter
Verified by: Maroha Sarah Sign: Telephone: 0752 666000 Email: Date: 21/11/11	Names of Driver: Jame Ariho Vehicle number: UAD 963 V Sign: Title: Date: 21/11/11
Comments :	
To be returned to NMS within 14 days of receipt of supplies	

NMS will accept return of goods if—

- NMS staff has made mistakes in the order processing (i.e. you did not order the goods)
- Goods have less than three months' shelf life and this fact was not brought to the attention of the customer by the time of delivery
- Goods were damaged at the time of delivery
- Poor quality items were delivered
- Wrong items and/or quantities were delivered as per the delivery note

Below is an example of a filled in "NMS Customer Complaints Form"

Figure 20: Example of a Filled in NMS Customer Complaint Form

NMS MEDICAL LOGISTICS

NATIONAL MEDICAL STORES CUSTOMER COMPLAINTS FORM
SERIAL NUMBER: 0002011

DETAILS OF COMPLAINANT *(Fill in the right hand columns)*	
Name of Person lodging complaint	Makoha Sarah.
Designation	In-charge
Address (District, Facility Name)	Busu HCIV Mbale.
E-mail	
Telephone No	0752 666 000

DETAILS OF COMPLAINT *(Fill in the right hand columns)*	
Date of incident	21/11/11
Order number(s) (if applicable)	3346 - 06
Subject(s) of complaint NB: • *For **quality** related issues, **clearly indicate** the Item code, Item Description, Unit of Measure, **Batch/Lot** number, **Manufacturer** &expiry, where applicable)* • *For order not fully serviced indicate % of items not supplied as per order made.*	☑ Discrepancy ☐ Quality issues ☐ Order not fully serviced ☐ Item not ordered for ☐ Short-dated/ Expired items ☐ Non delivery ☐ Delayed Delivery ☐ Others - specify below

The Health facility recieved only 200 vials of Lignocaine instead of 400 vials

Signature

21/11/11
Date

NMS WILL ACCEPT YOUR COMPLAINT IN THE FOLLOWING WAYS:

- By faxing 0414-321 323/ 0414 - 321 062
- By mailing P.O. Box 16 Entebbe.
- By e-mailing sales@nms.go.ug
- By physically delivering your complaint to our Liaison offices or main office at Entebbe.
- By telephoning 0800200015/08002221 toll free and requesting for the Customer Complaints Form

NMS WILL ACKNOWLEDGE ALL COMPLAINTS AND TRY TO RESOLVE THEM WITHIN 7 WORKING DAYS

Distribution: Original - National Medical Stores; **1st Copy** - District Health Office/Hospital; **2nd Copy** - Health Facility

KEY POINTS

- ➔ Health facility staffs are responsible for carefully checking goods received for discrepancies.
- ➔ In case of discrepancies, the facility must complete and submit a discrepancy report immediately.
- ➔ Make entries on the stock cards immediately after receiving the order.
- ➔ Discrepancy report, delivery note, and invoice must be dated, signed, and filed.

CHAPTER 11: DONATIONS

Donations, if appropriate, can support valuable health care services in Uganda. The MOH guidelines on donation compiled by the National Drug Authority provide detailed procedures on handling donations (Figure 21).

However, to ensure that donations are fully usable, it is important to ensure that—

- The DHO has endorsed the delivery documents accompanying the donation
- The items provided are on the essential medicines, supplies, and lab commodities lists
- The items are required and routinely used by the facility
- The quantities provided can be consumed before the expiry date
- The items are of good quality

Note: Do not accept a donation that is not needed or that may not be used before expiry (Figure 22).

Figure 21: NDA Guidelines on Donations

NATIONAL DRUG AUTHORITY, UGANDA

Plot 46 –48 Lumumba Avenue
PO Box 23096, Kampala, UGANDA
Phone: (+256) 41-255665 / 347391/ 347392
Fax: (+256) 41-255758 **E-mail: ndaug@nda.or.ug**

GUIDELINES ON DONATION

THE NATIONAL DRUG POLICY AND AUTHORITY REGULATIONS, 1997

ARRANGEMENT OF REGULATIONS

PART I: PRELIMINARY

1. Citation
2. Preamble
3. Interpretations

PART II: NEED FOR DONATION

4. Expression of need

PART III: ALLOWABLE DRUGS

5. Drugs approved and registered
6. Emergency and Exceptional circumstances
7. Verification of permission

PART IV: QUALITY AND SHELF LIFE

8. Presentation
9. Returned drugs and samples
10. Shelf life

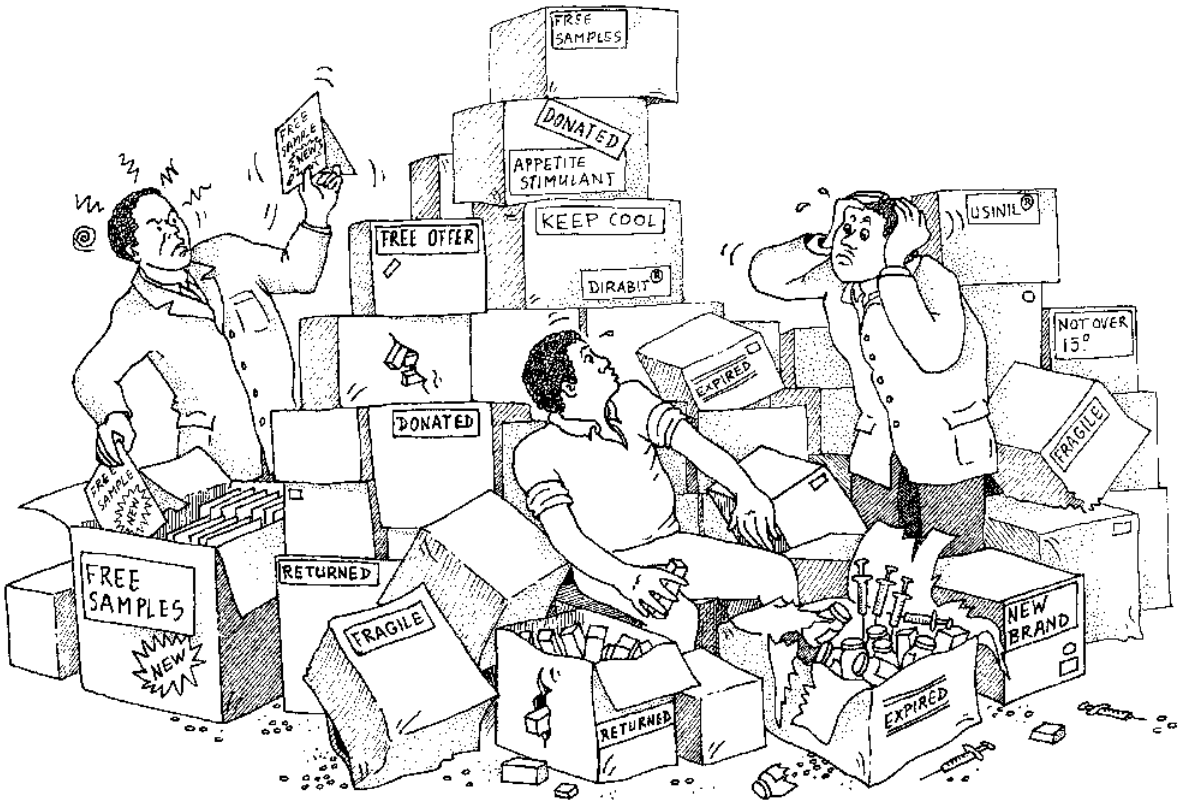
PART V: PRESENTATION, LABELING AND PACKING

11. Presentation
12. Labeling
13. Packing

PART VI: MISCELLANEOUS

14. Delivery costs
15. Returns and Accountability
16. Transfer or Re-export

Figure 22: Donations can be a Problem



Source: MSH and WHO. 1997. Managing Drug Supply.2nd ed. Hartford, CT, USA; Kumarian Press.

SUMMARY OF MOH GUIDELINES ON DONATIONS

Donations should be—

- Based on expressed needs
- Relevant to the disease pattern in the country
- Sent only with MOH's prior consent
- The generic equivalents approved for use in the country and should appear on the Essential Medicines and Health Supplies List for Uganda
- Similar in presentation, strength, and formulation to those commonly used in the country

Quality assurance and shelf life

- Medicines should be obtained from a reliable source and comply with quality standards.
- Used or returned medicines or free samples are not acceptable as donations.

Presentation, packing, and labelling

- International non-proprietary name (INN) or label/generic name, batch number, dosage form, strength, name of manufacturer, and quantity should be provided in ENGLISH.

Information and management

- The Permanent Secretary should be informed as soon as possible of all EMHS donations that are being considered or are actually in the process of being donated to MOH.
- The cost of transportation, warehousing (holding costs), port clearance fees, and appropriate storage and handling fees should be borne by the donor agency, unless prior agreement has been made with the Government of Uganda to meet such costs.

Recording at health facility

Record all donations received on the existing stock cards for the items. Do not open a new stock card just for the donations. Include the items as part of your stock and use the FEFO principle when issuing out.

KEY POINTS

- ➔ Donations may help bridge a supply gap, but should only be received at the facility if they are on the EMHSLU and can be used at that level of care
- ➔ Donations should only be accepted if they can be used within the product's remaining shelf life
- ➔ The donation should be endorsed by the DHO or Ministry of Health
- ➔ Record donations received in the stock cards and follow the same stock management principles for receiving and issuing

CHAPTER 12: HOW TO ISSUE SUPPLIES

Issuing medicines and health supplies is the storekeeper's regular activity and care should be taken to ensure proper recording of all items taken out of the store. No commodity should leave a store without a requisition from the unit using the item.

Health facilities should always maintain one store where all stock cards and the stock book are kept. All other user departments or wards such as the outpatient department, antenatal clinic, TB clinic, and the pharmacy should request their supplies from the store, using the requisition and issue voucher. User departments should not keep stock cards because their dispensing logs provide all the information needed for accountability and to track consumption. Keeping stock cards up to date and implementing good stock management is time consuming; therefore, the store should be responsible. Pharmacy staff may help and train the storekeeper in inventory management and in preparing orders.

ISSUING SUPPLIES FROM THE DISTRICT STORE

The district storekeeper should record all the medicines and supplies received for onward distribution to the health facilities. Districts will often receive supplies in the form of kits or sealed boxes destined for specified health facilities. In this case, if the boxes are properly sealed, there is no need to verify the contents in the box. The storekeeper should record the delivery note information in the book and prepare to forward the items together with the original papers to their final destination.

When the district store receives loose items to distribute to lower-level facilities, the storekeeper should issue supply vouchers to accompany the items during distribution to the recipients.

Issuing supplies to users within the facility

Following are the steps for facility-level stores to take to issue supplies:

- The store should establish a schedule for delivering commodities to the departments within the facility (e.g., outpatient department dispensary, antenatal department, TB clinic, and pharmacy [the pharmacy with its dispensary should also be regarded as a department to simplify stock management]).
- On designated days of the week, user departments should present requisitions for medicines and medical supplies. The store will then issue products out to the different departments.
- A regular programme to issue EMHS once or twice a week allows time for the storekeeper to update records and carry out other store functions.
- Users can use HMIS Form 017 (Figure 23) to requisition supplies. The form should be filled out in duplicate. When the forms are not available, requisitions should still be made in duplicate. Stores should only issue against approved requisitions.
- The requisitions should be approved by the head of the unit as a counter-check.
- Issues from stores to departments should as much as possible be in packs (e.g., tins of 1,000 tablets) or the smallest original container.
- When supplies are issued, the person collecting them should check and counter-sign to acknowledge receipt of the items.
- The storekeeper should always record the transaction on the stock card before issuing an item out of the store.

Issuing to other facilities

Supplying medicines and health supplies to other facilities is sometimes necessary, for example, when other facilities run out of stock or when large quantities of slow-moving items need to be redistributed. In such cases, the receiving facility should make a requisition which should be counter-signed by the person in charge of the HSD or a member of the District Health Team.

Using HMIS 017 for requisition and issue

The in-charges of the departments or units which also including the dispensary must fill in a requisition and issue voucher every time they need new supplies from the store. The HMIS 017 requisitions and issue voucher is shown in Figure 25. Follow the steps below to fill in the requisition and issue voucher.

Filling in the requisition and issue voucher

1. **Header information:** Fill in the name of the health unit making the order/issuing; also enter the department/section/ward/dispensary, and date the requisition/issue is made

Filling in the order

2. **Ordered by:** The person making the requisition should write his or her name and sign
3. **Item code:** Enter the item code of the commodity as written in the NMS catalogue

4. **Item description:** Enter the full description of the commodity, including name, dosage form, and formulation; for example, quinine dihydrochloride injection 600 mg/2 ml ampoule
5. **Physical count (current balance):** Enter the quantity of this item currently in stock;
6. **Quantity ordered:** Enter the quantity that your department wants to order**.**
7. **Authorized by:** The in-charge of the department should write his or her name and then sign

Filling in the issue

8. **Quantity issued:** The store keeper now manage the order and enter the quantity of items issued
9. **Unit cost:** Enter the unit cost of the item being issued (the unit cost might not be filled if the issue is internally within the facility. Only fill in if information is going to be used)
10. **Total cost:** Multiply the quantity issued with the unit cost to get the total cost (the total cost might not be filled if the issue is internally within the facility)
11. **Issue date:** Enter the date of the transaction
12. **Name and signature of issuer:** The issuing officer (store keeper) should write his or her name and then sign.

Receipt of goods:

13. **Receipt date:** the person who receive the goods enter the date on which the goods are received
14. **Name and signature:** Enter the name and signature of the person who received the goods.

Before signing ensure that—

- The right items have been issued
- The quantities are correct
- The commodities are not expired
- The cost calculations are correct

Figure 23: A Filled in Requisition and Issue Voucher

HMIS FORM 017: REQUISITION AND ISSUE VOUCHER

Name of Health Unit: Bumanya HC II

Dept/section/ward/dispensary: Out patients dispensary

Date: 13 Nov. 2011

Ordered by (Name and signature):

Christine Agio

Authorized by (Name and Signature):

Loyce G I/C

Item Code No.	Item Description (name, formulation, strength)	Balance on Hand	Quantity Required	Quantity Issued	Unit Cost	Total Cost
220 162	Diclofenac Tabs 50mg	0	2 x 100 tabs	2 packets	550	1100
202 054	Tetra eye Oint 1%	2	10 tubes	10	380	3800
220 255	Ferrous + Folic acid Tabs (150 /0.5)mg	0	1 x 1000 tabs	1	7000	7000
220 145	Chlorpheniramine Maleate tabs 4mg	0	1 x 1000 tabs	1	16000	16,000
	Total					27900

Issue date: 13 Nov. 2011

Receipt date: 13 Nov. 2011

Name & Signature receiver:

Christine Agio

Name &signature issuer:

Kalemera -Store Keeper

KEY POINTS

- All issues from the store should be based on a requisition and issue voucher.
- The requisition and issue voucher should also be used within facilities, whereby all user departments make their requests to the main store following an agreed-on schedule.
- In a health facility, only the store should maintain stock cards, while the other departments should record what is used or dispensed in the prescription and dispensing log.

PART 6: DISPENSING

To ensure that medicines are used rationally and that patients benefit from treatment, the prescriber, the dispenser, and the patients must play their respective roles. If any of those three stakeholders fails in any way to carry out their role properly, then all efforts made to ensure that medicines are available go to waste.

Common irrational medicines use includes—

- The use of too many medicines per patient (poly pharmacy)
- Inappropriate use of antimicrobials, often at an inadequate dose, for nonbacterial infections
- Overuse of injections when oral formulations would be more appropriate
- Failure to prescribe in accordance with clinical guidelines
- Inappropriate self-medication, often with prescription-only medicines
- Not being able to dispense the medicines prescribed due to stock outs

Inappropriate use and overuse of medicines waste resources, in particular, those of patients who pay out-of-pocket for treatment. Inappropriate use can result in significant patient harm such as treatment failure and adverse drug reactions.

Prescribing and dispensing medicines are separate activities. This chapter will focus on dispensing medicines to patients and clients. As mentioned, all efforts to make medicines available at health facilities will be wasted if the final user is not given proper information that can ensure that he or she takes the medicine correctly.

CHAPTER 13: DISPENSING PROCEDURES AND RECORDS

When you dispense a medicine to a patient, it is important that the patient receives—

- The correct medicine
- The correct amount of the medicine
- The correct information on how to use the medicine

Dispensing medicine to a patient consists of the following: **Checking** the prescription, **collecting, counting, packaging,** and **labelling** the medicine, **dispensing** the medicine to the patient, **providing** the patient with the appropriate information about taking the medicine, and **recording** the transaction (Figure 24).

As the dispenser, you should carefully and clearly explain to the patient how to take the medicine. This is very important because medicines are effective only if taken correctly. The patient should be able to repeat to the dispenser how she or he will take the medicine.

Figure 24: Steps for Dispensing

ACTIONS

Step 1: Check prescription

Patient details, Uganda Clinical Guidelines

↓

Step 2: Prepare medicines
Check name, strength, unit size on container label
Check quality. Do not use cracked or broken tablet
Count correct quantity using gloves and counting tray

↓

Step 3: Double check steps 1 and 2

↓

Step 4: Dispense

Use a dispensing envelope or small bottle
Label with patient, medicine, quantity details

↓

Step 5: Inform Patient

Instruct on how to measure and take medicine
Dose should be taken in full and not shared

↓

Step 6: Record prescription and dispensing

Date, patient number, diagnose, medicine name, initials of prescriber and dispenser

In larger health facilities, the prescriber is not the same person as the dispenser. In most small health facilities, a health worker prescribes medicines during the clinical consultation. Then she or he moves to the dispensary and dispenses the prescribed medicines to the patient. The dispensary may be a room, part of a room, a cabinet, or a dispensing trolley. Prescribe medicines in the clinical area of the health facility and dispense medicines from a dispensing area (or dispensary/pharmacy).

Keep supplies in the dispensing area organized. Organize supplies in the same way they are organized in the store— that is, either by route of administration, therapeutic class, or dosage form. Also, keep the medicine in the dispensing area away from the dispensing window to avoid potential theft of medicine by patients and allowing space for private conversations between dispenser and patient. A dispensary with medicine well organized shows professionalism.

A more detailed summary of the dispensing steps follows.

STEP 1. CHECK THE PRESCRIPTION

1. Check that the prescription is valid with the particulars of the patient (name, age, and weight), the diagnosis, treatment, as well as the name and signature of the prescriber.
2. Check that the treatment prescribed is according the recommended treatment in the Uganda Clinical Guideline.
3. Check that the prescription is appropriate for the age and weight of the patient. Also check that the medicine prescribed is appropriate in form, strength, and dosage and level of care.

STEP 2. PREPARE THE MEDICINES

4. Collect a container of the items prescribed and check its expiry date. Some medicines look the same and may easily be confused. Read the generic name on the label of the container. Check that you have the correct form, strength, and unit size.
5. Open the container. Check the quality of its contents. Count the quantity needed. Do not touch the medicines with your bare hands; you may both contaminate the medicines and expose yourself to adverse medicine reactions. Always use a counting tray. If you do not have a tray, use the lid of the tablet jar as a tray. If tablets or capsules are cracked, broken, powdery, or sticky, they are damaged and should not be used. If capsules are swollen, softened, or stuck together, they are damaged and should not be used. Do NOT give patients poor-quality medicines. Dispose of those medicines properly in the section set aside for expired or damaged medicines.

STEP 3. DOUBLE-CHECK INFORMATION AND COUNTING

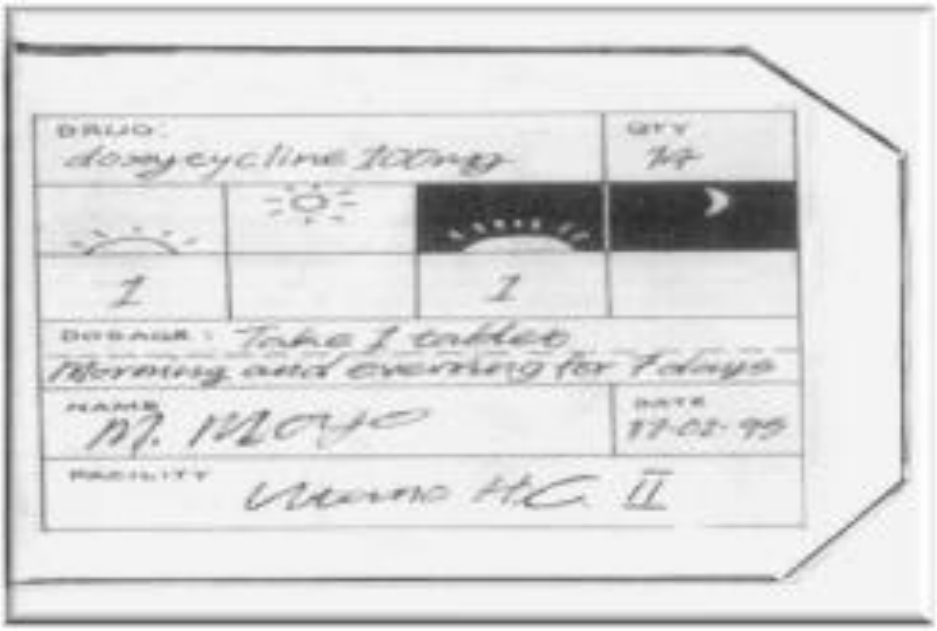
6. Check again to ensure that you have picked the right medicines as prescribed and that you have counted correctly. Where staff numbers are adequate a second person should check that the medicines packed match what is prescribed.

STEP 4. DISPENSE THE MEDICINES

7. Use a dispensing envelope or small medicine bottle to package the item for the patient. Label the package clearly with the patient's name, facility name, date, name of the item

(generic), strength, quantity dispensed, dose and how to take the medicines. Write clearly. Use pictures or numbers to record the dose. See figure 26 for an example of a filled in dispensing envelope.

Figure 25: Dispensing Envelope



8. Put the prescribed amount of the medicine into the dispensing envelope without using bare hands – use the counting tray.
   Put any extra tablets or capsules back into the appropriate container immediately. If more than one medicine has been prescribed, close one container before opening another. Prepare all of the prescribed items before they are dispensed to the patient. Give the package to the patient.

STEP 5: PROVIDE APPROPRIATE INFORMATION

9. Teach the patient how to take the medicine. If the patient is a child, ensure that the mother (or caretaker) gets full information about the treatment.
10. Tell the patient the name of the medicine, its form (tablet, syrup, etc.), why the patient needs to take it, and the dosage. The dosage includes—
    a. When to take the medicine (for example, in the morning)
    b. How much of the medicine to take (for example, ½ tablet)
    c. How long to take the medicine (for example, two days)
    d. How to take the medicine (for example, with food)
11. If a dose is less than a whole tablet, show the patient how to divide the tablet. If it should be mixed with food, describe how to crush the tablet and mix it with food.
12. If liquid preparation is being dispensed, show how to measure the correct amount. Use the cap of the bottle or show the patient the common measuring spoons to use.
13. Instruct the patient to take the <u>full dose</u> of the prescribed medicines. Explain that the patient may feel better before she or he finishes all of the medicines, but it is still very important to complete the dose. This is especially true of antibiotics or antimalarial medicines because bacteria or parasites may still be present if the dose is not completed.
14. Tell the patient not to share her or his medicines with another person.

15. Medicines taken incorrectly may be poisonous or fatal. Always check that the patient or caretaker understands the instructions.
16. Tell the patient to keep all medicines and medical supplies in a safe place at home and out of the reach of children. The place must be cool, dry, and safe from pests. Recommend places in the home where patients could store their medicines.

STEP 6: RECORD IN THE PRESCRIPTION AND DISPENSING LOG

Prescription and dispensing information should be recorded in the recently introduced Prescription and Dispensing Log (HMIS 016).This form should be filled in every time medicines are dispensed and the log must be kept in all units where medicines are dispensed.

Record the following information:

1. **Date:** Fill in the day, month, and year
2. **OPD/IP number:** Fill in the outpatient department or the inpatient number, whichever is applicable
3. **Diagnosis:** Enter the diagnosis if recorded on the prescription (e.g., malaria, diarrhoea). Sometimes symptoms such as fever, pain, vomiting are recorded instead of a diagnose that is not sufficient to ensure appropriate treatment which requires if possible a diagnosis.
4. **Item name:** Fill in the name and strength of the medicines that are prescribed regularly in the vertical spaces. For each medicine, enter the total number of units prescribed (P) and dispensed (D). (The amount dispensed may not necessarily equal the number prescribed, especially if there is short supply.) See the filled in example of a prescribing and dispensing log in Figure 28.
5. **Other medicines:** Fill in other medicines that are not prescribed frequently and are not included in the list of medicines in the vertical spaces (e.g., praziquantel)
6. **Initials:** Fill in the prescriber's and dispenser's initials

KEY POINTS

- ➔ When dispensing, check the prescription to ensure that it is valid and provides complete information on the patient, the medicine, and the prescriber.
- ➔ Select the right medicine and double-check to ensure that you have packed the correct medicines in adequate quantities.
- ➔ A label on the medicine envelope or package should include the generic name of the medicine, patient and facility information, and clear instruction on dosage for use by patients.
- ➔ Ensure that the patient has understood the purpose of the medicines and dosage.

Figure 26: Record of Prescribed and Dispensed Medicines at Health Facility Level

HMIS FORM 016: PRESCRIPTION AND DISPENSING LOG

			PRESCRIBED (P) AND DISPENSED (D)																		INITIALS	
			Artemther /Lumefantrine tabs20/120		Paracetamol tabs500mg		Amoxycillin caps 250 Mg		Mebendazole tabs100mg		ORS sachets 25g		Chlorpheniramine tabs 4mg		Metronidazole Tabs 200mg		Ciprofloxacine tabs 500mg					
Date	OPD/IP Number	Diagnosis	P	D	P	D	P	D	P	D	P	D	P	D	P	D	P	D	Other Medicines	P	D	Prescriber	Dispenser
07/02/ 2011	986	v. discharge													30	30	10	0	Doxycycline caps	14	14	GB	RT
07/02/ 2011	987	Malaria			12	12													Quinine Tabs	30	30	GB	RT
07/02/ 2011	988	Malaria	24	24															Acetyl salicylic acid	18	18	GB	RT
07/02/ 2011	989	Dental Abscess					20	0							30	30						GB	RT
07/02/ 2011	990	Skin Rash							10	10			10	10					Calamine lotion 60ml	1	1	GB	RT
07/02/ 2011	991	URTI			12	12													Erythromycin Tabs 250mg	30	0	GB	RT
07/02/ 2011	991	Assault																	Cotrimoxazole	20	20	HR	RT
07/02/ 2011																			Acetyl salicylic acid	18	18	"	"
07/02/ 2011	993	Malaria	18	18																		HR	RT

PART 7: LABORATORY COMMODITIES

CHAPTER 14: MANAGING LABORATORY COMMODITIES

Laboratory services play a significant role in a country's health system and in the delivery of quality health services. Expanding programmes for HIV/AIDS, TB, and malaria require strong and supportive laboratory services. When diseases are diagnosed incorrectly, not only does the patient suffer, but valuable medicines are wasted treating a disease for which they are not effective. Correct diagnoses based on lab tests prevent incorrect treatment, and the money saved may be used to purchase medicines and treat patients effectively.

Laboratory commodities have unique characteristics and classifications that must be taken into consideration when managing supplies.

CHARACTERISTICS OF LABORATORY COMMODITIES

The characteristics of laboratory commodities affect the design and management of their logistics system. For example, reagents can come in a variety of preparations (solid, powder, liquid). A commodity's physical presentation affects how storage and distribution, quantification, and how data is collected and reported. Examples of laboratory commodities unique characteristics follow:

- **Large numbers of commodities are needed.** Each test performed in a laboratory requires several different commodities. For example, a simple malaria test can require five reagents and four consumables.
- **Laboratory commodities come in a variety of preparations, including solid and liquid reagents.** Many reagents come as solids that are measured and reconstituted with distilled water for use in tests. Several other pieces of equipment are needed to accurately reconstitute the solid reagents such as weighing equipment, measuring flasks, and packaging materials for reconstituted products, which must all be considered in logistics planning.
- **Laboratory commodities can be packaged in kits.** Several tests come as kits that contain all or most of the commodities required to perform that particular test. Care must be taken when ordering kits—the contents of the kits must be known as well as how many tests a kit can perform. For example, the Uni-Gold™ HIV rapid test kit is packaged with 20 test devices that contain the reagents, wash reagent, and 20 disposable pipettes. To perform the test, however, the technician needs a timer and blood collection devices, which are not included in the kit package. Additional reagents, equipment, and consumables not in the kit should be ordered separately.
- **Some laboratory commodities have short shelf lives and require special storage conditions.** Most laboratory reagents have a shelf life of approximately 24 months. However, shelf life can vary from less than 4 months up to 36 months. The length of the shelf life is an important consideration when ordering laboratory supplies.

Most laboratory commodities can be stored following general storage procedures for health commodities discussed previously. However, some require special storage which must be taken into consideration when managing laboratory supplies.

CLASSIFICATION OF LABORATORY COMMODITIES

For the purpose of supply chain management, including designing and managing laboratory logistics systems, there are various ways to classify laboratory commodities.

Reagents, consumables, durables, and equipment

- **Reagents** are chemicals and biological agents that are used in laboratory testing for detecting or measuring an analyte (the substance being measured or determined).
- **Consumables** are items that are used once while performing a test and are not reused. Consumables can include test-specific items, such as thermal paper required to run a CD4 count. Other consumables cut across all testing services and are classified as general laboratory consumables, such as bleach, alcohol, and gloves.
- **Durables** are items that can be reused for multiple tests. They include items such as glassware that can be washed, sterilized, and reused.
- **Equipment** refers to semi-automated or automated machines and instruments used in testing. Equipment ranges from complex automated equipment, such as chemistry machines that require regular preventative maintenance and servicing, to basic equipment such as microscopes and water baths.

Reagents and consumables are generally commodities that are routinely ordered and resupplied. Durables and equipment, on the other hand, are ordered on an as-needed basis (e.g., every year or every several years) and do not require the same level of logistics management.

Slow-moving and fast-moving commodities

Commodities may be classified as slow or fast moving. Slow-moving commodities are those that will take several months to be consumed once issued to the bench. The rate of consumption also typically depends on health facility level. For example, a 100 g bottle of basic fuschin used for staining may take several months to finish at a lower-level facility, and therefore would be considered slow-moving. In contrast, the same bottle may be used up in a matter of weeks at a regional-level facility and therefore would be considered fast-moving.

Classifications should be used in combination to help determine how commodities should be managed. For example, a slow-moving product with a long shelf life should be managed differently than a slow-moving product with a short shelf life.

Long and Short Shelf Lives

The commodities required to run a single test may have differing shelf lives. For example, the commodities required to run an automated haem atology test include haematology controls that have a shelf life of up to three months, haematology reagents that have a shelf life ranging from one to three years, and consumables, such as Vacutainer containers, that have a shelf life of three years or more. When planning to order reagents for haematology tests, for example, shelf life should be considered to avoid wastage.

Management of Laboratory Commodities

Selection

The Uganda Medicines and Therapeutic Advisory Committee (UMTAC) in collaboration with the Central Public Health Laboratories and other stakeholders developed a list of essential laboratory commodities and reagents that will become part of the Essential Medicines and Health Supplies List of Uganda (EMHSLU). The list is categorised into Vital, Essentials and Necessary (VEN) and further classified by the different levels of care. The list of lab commodities also includes items that are grouped as kits for purposes of ensuring that chemicals and reagents required for one test are available as a kit. Health facilities should therefore put most of their resources into procuring items or kits that are vital for their level of care.

Stock management

Stock cards. Laboratory commodities are managed as part of the EMHS. Each item should have a stock card that is updated after every transaction. Stock cards should be kept in one place—the store—and not in the lab where tests are done. The lab should have dispensing logs or registers to record quantities used for tests. The lab will on a regular basis (weekly) fill in a requisition to the store ordering the new supplies they need.

Stock book. The stock book kept in the store is a monthly summary of transactions for each item in the store (See chapter 6). Each page in the stock book provides information for each item for up to two years. Large facilities will have a separate stock book for lab commodities.

Storage management

Most lab commodities will be stored with other EMHS under same conditions in the store. Special care is required, however, when handling chemicals that are corrosive or potentially explosive. Such items should be kept in a separate area within the stores. Some lab commodities require cold storage and must be kept in a refrigerator.

Ordering

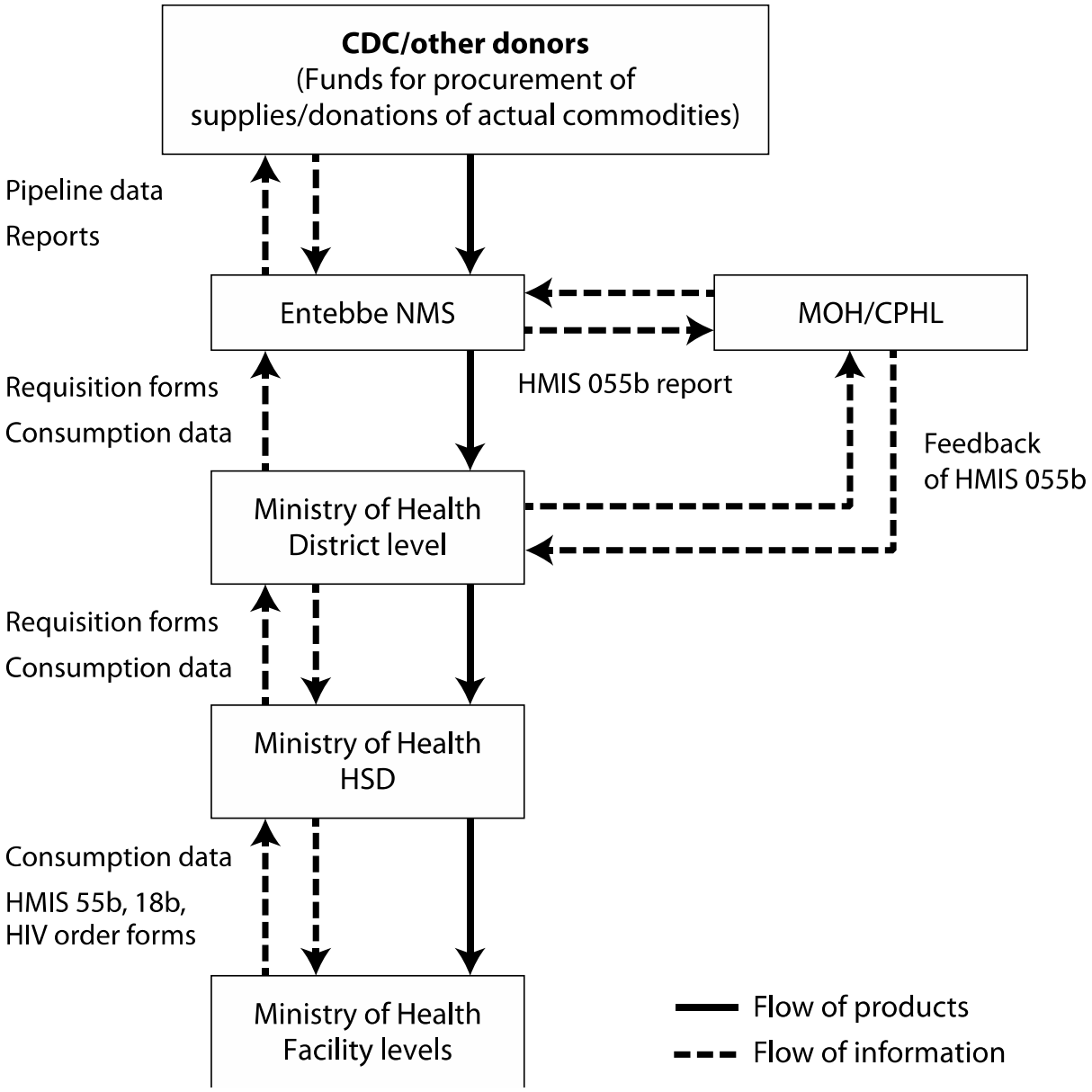
Health facilities order lab commodities following the same order delivery schedules as for all other EMHS. The number of items and quantity of each item ordered will depend on the facility level, credit line balance, and shelf life of the commodities:

- **Level of facility**. As discussed earlier, lab commodities have been VEN categorised by level of care. Facilities should give priority to vital items within their level. They should use the stock book to develop the requirements list.
- **Credit line balance**. The current system of funding for lab commodities is based on a credit line system; 80% of the funding is allocated to MOH public facilities, managed by NMS, and the remaining 20% to private not-for-profit–facilities and managed by JMS. Public facilities are allocated credit line funds every two months. The HSD provides information on the availability of these funds to the facilities. JMS allocates funds to respective NGO/private facilities every four months. Health bureaus in the respective districts provide information on the availability of these funds to the facilities; however, NGO facilities have the flexibility to order supplies at any time within the given four-month period that supplies are availed.
- **Shelf life and quantity to order.** The quantity to order is determined by maximum stock minus the stock on hand at the time of ordering (obtained from the stock card). It is recommended that the order is made by the store keeper together with the laboratory staff. Some reagents have a short shelf life and hence the maximum is fixed at a lower level. Reagents with long shelf lives have a maximum level of four months, while the reagents

with short shelf lives have a maximum level of two months. To calculate the maximum stock accurately, the stock cards, stock book, and dispensing logs should be up-to-date.

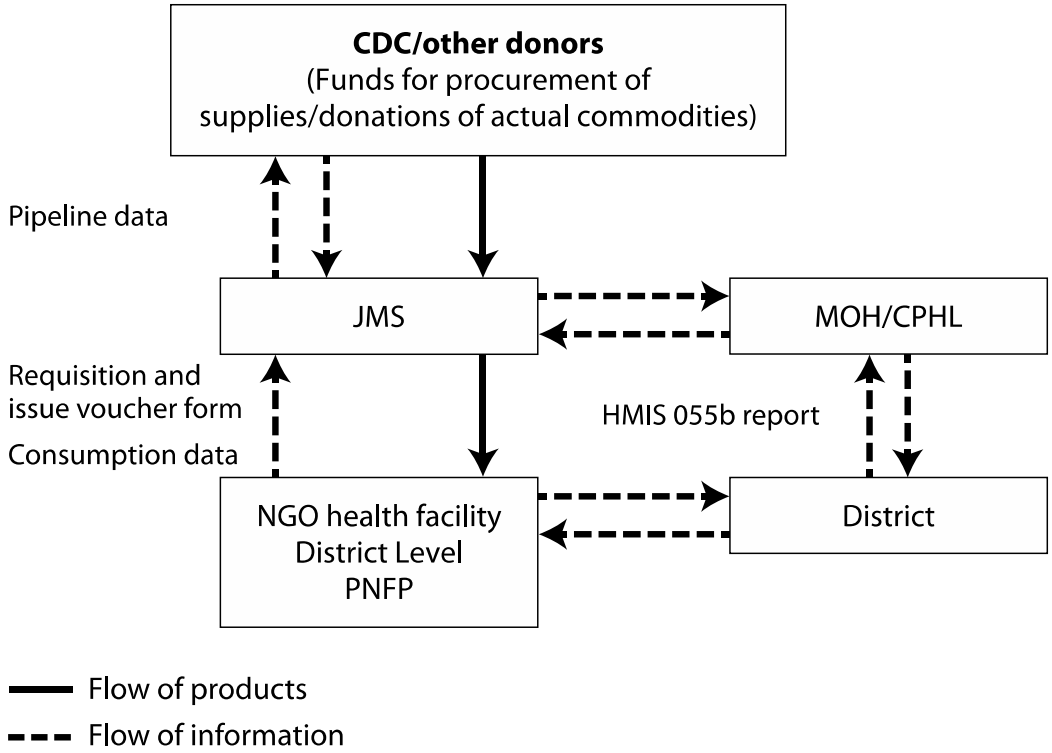
Figures 29 and 30 illustrate the flow of information and products for lab commodities in public and private not-for-profit facilities.

Figure 27: Product and information flowchart for Bimonthly Ordering for General Lab Supplies and HIV Test Kits at Government-Health Facilities



Source: Ministry of Health Uganda. 2010. Logistics for HIV tests and Laboratory supplies. Facility Job Aids National Logistics Training. Kampala: Ministry of Health.

Figure 30: Product and information flowchart for bimonthly ordering for general lab supplies and HIV test kits for nongovernmental organizations and private not-for-profit facilities



Source: Ministry of Health Uganda. 2010. Logistics for HIV tests and Laboratory Supplies. Facility Job Aids National Logistics Training. Kampala: Ministry of Health.

Consumption Records

Consumption reporting records serve two primary purposes—

- To record the usage of HIV tests for HIV counselling and testing , prevention of mother-to-child transmission (PMTCT) programs, clinical diagnosis, and quality control within the facility
- To assist in determining the quantities to order

Items such as test kits are recorded in consumption logs that can be used to determine the AMC and therefore the quantity to order. The consumption rate for reagents and other consumables can be obtained from issue data in the stock cards or from an up-to-date stock book.

Consumption log for HIV tests (HMIS 055a4 HIV)

This log is filled in whenever an HIV test is used. The laboratory technician or another person designated by the facility should complete it. The sum of test kits used in a month is the rate of consumption.

Bimonthly report and order calculation form for HIV tests, laboratory reagents, and consumables

At the end of the bimonthly reporting cycle, the laboratory personnel responsible for managing lab commodities or other authorized person should fill out this form. The purpose of this form is to report—

- Stock-on-hand balances of HIV tests at the facility
- The facility's bimonthly usage of laboratory commodities
- Quantities to be resupplied at the facility

Daily activity registers

The daily activity register is filled in whenever a laboratory test is done. There are different forms for each level— HC II and HCIII, HC IV and the hospital (H1). The forms help maintain records of patient information, tests performed, and the results. Entries to the daily activity registers should be made by the health facility laboratory in-charge or other designated personnel. The daily activity registers is used record test in the areas of haematology, serology, parasitology and microbiology

Activity registers are also filled for specialised tests that may be carried out at different levels of care. The special registers include HIV test, Clinical Chemistry (renal, liver, cardiac and bone profile), HIV viral load and CD4 count

Laboratory test monthly summary

The monthly health unit laboratory tests summary should be completed by the laboratory in-charge or the laboratory staff responsible for managing commodities. Its purpose is to report the total number of tests done at the health unit by type.

KEY POINTS

- ➔ Laboratory commodities should be managed similar and together with other EMHS applying the same storage and stock management guidelines.
- ➔ Facilities should give priority to ordering vital items when using credit line budget.

PART 8: STOCK-OUT AT THE SUPPLIER

The minimum stock and AMC calculations are used in the stock control system, so that when an order is placed; stock on the shelf will last until the order arrives. If NMS or JMS has no stock, the stock on the shelves may not last until the next order arrives. This means that you may have to order extra supplies from somewhere else, until NMS or JMS receives stock again. This section provides some useful steps to take to improve availability in the case of supplier stock-out.

CHAPTER 15: WHAT TO DO IF NMS OR JMS IS OUT OF STOCK

NMS and JMS are the recommended suppliers for essential medicines and health supplies for government and private not-for-profit (PNFP) facilities, respectively. However, there are times when NMS and JMS will be out of stock.

Always ensure that the facility has optimal stock on hand (stock levels between minimum and maximum), so that the facility will not be immediately affected by stock-outs at the supplier. Keeping a maximum stock level of five months and topping up supplies when ordering provides a “buffer zone” of stock that averts crises when NMS/JMS is out of stock for a short time.

When you receive the consignment from NMS/JMS, and an item you ordered was not supplied, you should still be okay if you have more than your minimum stock of two months, and you just order the item again during the following order period. Using the principles described under the order quantity chapter, the quantity to order will bring you up to a five-month supply. However, if NMS/JMS continues to be out of stock, you will eventually be affected, and you will need to identify alternative sources for the items.

These include—

- Borrowing the item from another health facility
- Procuring it from the private sector, if the facility has the funds

BORROWING

If an item is urgently required, try to borrow from another facility. Only borrow the amount needed for that emergency. Remember that, at some point, the borrowed medicines have to be returned. The borrow/lend record will help you in remembering (Figure 31).

To borrow medicines from another facility, fill in the requisition and issue voucher (HMIS 017) and fill in the borrow/lend record. Do not enter this estimate in the commitment register because it is not a new order. Enter the transaction in the stock card and record the quantities borrowed in the losses and adjustment column. If you loan items to another facility, follow the same procedure.

This loan may be returned in either of two ways—

- When the items that were borrowed are in stock again, write out a requisition and issue voucher and return the voucher to the facility that loaned them. Do not forget to enter this transaction on the stock cards and in the Borrow/Lend Record.
- Look at the cost of the borrowed items and replace them with other items of the same value as the items that were borrowed. Both parties must agree on the replacement items.

All facilities should keep a **borrow/lend record** to help keep track of what is borrowed and lent and to ensure that the facility gets items back and returns items that were borrowed. A borrow/lend record has two parts—one records what the facility has borrowed and the other what the facility has lent to others. The borrow/lend record should be clearly marked with "borrowed" or "lend" so as not to make mistakes. There is not a pre-printed record available so you will have to make your own record using a note book or similar.

Figure 28: A Borrow/Lend Record

BORROW/LEND RECORD							
				Quantity			
Date	Code No	Item	Unit	Borrowed	Lent	To/From	Returned date
23/6/11	220 185	Cotrimoxazole 400-80 mg tablets	1000 tabs	5		Kayunga Hospital	8/8/11
1/10/11	220 460	Paracetamol500 mg tablets	1000 tabs		3	Wabwoko HC III	2/12/11
7/11/11	24/1930	Crepe bandage 2 "	piece	10		Kojja HC IV	
1/1/12	220 155	Chlorpromazine HCL 100 mg	100 pack	10		Baale HC IV	

PRIVATE SECTOR PROCUREMENT

If the items are not available at NMS/JMS and cannot be borrowed from elsewhere and if the DHO or the facility has funds, you may procure emergency items from a private supplier. Use the VEN system to prioritise these purchases. In general, only V items should be procured privately, although E items could be considered, if the budget allows.

Important
- Only use generic products—the price difference can be enormous.
- Reserve private procurement for the emergency supply of V (vital) items only.

Purchasing from the private sector should be according to procedures laid down by the Public Procurement and Disposal of Public Assets Authority Act (PPDA). Your supervisors from the district will guide you on how to make the procurement.

KEY POINTS

- ➔ By implementing the stock control system and calculating maximum stock and AMC levels carefully, short-term stock-outs at NMS/JMS will not cause serious problems.
- ➔ If the supplier's stock-out is long term, you may need to borrow from other facilities. This should be restricted to V items.
- ➔ Districts and facilities with available funds may procure from private sector companies when NMS/JMS are out of stock; however, these orders must follow the appropriate procedures and be made only when enough funding is available and only when V items are out of stock.

PART 9: SHORT-DATED AND EXPIRED STOCK

Medical supplies do have limited shelf lives. Standard treatment guidelines, laboratory testing protocols, and morbidity patterns change at times, therefore it can be expected that some medicines may not be used before expiry. Health workers can limit stock expiry by closely monitoring expiry dates and taking the appropriate action to redistribute stock when necessary. This part describes the procedures for redistribution of medicines and health supplies and how to write off expired supplies.

CHAPTER 16: WHAT TO DO WITH SHORT-DATED ITEMS

As a general rule, any item expiring in three months' time is short dated. However, some slow-moving items can also be included in that category, for example praziquantel tablets, or items which are only available in large units. At times, it is obvious even before three months prior to the expiry date that the item will not be used up in time. With the kit supply system, with one fit for all, you will likely receive too many of some items, so be extra careful to go through your supplies often to identify those that needs to be redistributed (more than five times the AMC). If, in each kit, you receive more then what you use in two months, you will build up excess supplies that need to be redistributed. The MMSs can help you identify which items those are.

When doing the monthly physical count, you will notice items that are short dated. It is extremely important to take immediate action to avoid any item's expiration on the shelf. Allowing three months for redistribution is a short time, and the process must begin immediately.

AT THE HEALTH FACILITY

Steps to take at the health facility include—

- Making a note of any item expiring within three months (or longer, for slow-moving items)
- Calculating how many units will be issued and used by your facility before the item expires. From that figure you can see how much you need to redistribute

Example with kit

You have 75 units of an item that has 12 month shelf life. Your AMC or MC for the item is 7. Before the next kit supply, which is bimonthly, you will use 2 (months) × 7 (AMC) = 14. Your excess stock therefore is: 75 – 14 = 61 units. If you receive more than 14 units in a kit, you will slowly build up excess supplies.

You might want to have 5 months of supplies in stock: 5 × 7 = 35, so you should still redistribute 75 – 35 = 40 items, although they have 12 months left of shelf life and you would have to redistribute them regularly to avoid expiry.

Example with short shelf life

You have 35 items that will expire within 4 months. Your AMC is 7. In 4 months, you can count on consuming 4 (months) × 7 (AMC) = 28 items. Therefore, you will need to have 35 – 28 = 6 items redistributed. If the AMC varies considerably for the item, say between 5 and 8, you might even want to redistribute 35 – (5 × 4) = 15 to be on the safe side. This decision also depends on whether you have items with different expiry dates for example if you in addition of the 35 items expiring in 4 months you have 10 of the same item expiring in 6 months. Whenever you receive new supplies of this item you must be sure that you issue out according to FEFO and continuously calculate if you can use the different batches before they expiry. You also do not want to run out of stock.

Steps to take include the following—

1. Alert the HSD or the district about any stock that cannot be used before expiry or that you have too much of.
2. Hand over the items to the district or HSD supervisors for redistribution. Be sure to fill in a requisition and issue voucher to go with the stock and keep a copy for the facility. A member of the health unit management committee should be present during the handover.
3. On the stock card, fill in under the losses and adjustments column the quantity sent to the district store and note the reason.

AT THE DHO

The DHOs should coordinate the redistribution:

- Make an extra effort to redistribute excess supplies received by some facilities following kit supply. Although the kit is revised regularly, excess stock will occur and often it will be the same items that are overstocked.
- Check with other districts that might make use of the short-dated or excess stock.

The redistribution process within the district should have no monetary implications for the recipient health facility. Items returned to NMS should be included under a pool for donation.

KEY POINTS

- ➔ Short-dated items are medicines and supplies expiring within the next three months **and** slow-moving items available in large quantities.
- ➔ Checking expiry dates must be part of every physical count.
- ➔ Effort must be made to use short-dated or excess stock before it expires, including redistributing it to other health facilities.
- ➔ The requisition and issue voucher should be filled in and stock card updated to reflect the redistribution.

CHAPTER 17: WHAT TO DO WITH EXPIRED OR DAMAGED STOCK

Occasionally medicines and health supplies will expire before use, sometimes because of poor stock management or because of unsolicited donations. Expired items should not be part of your stock; they should be removed and put in the designated place. It should also be recorded in the stock card as a negative adjustment so that the correct balance on hand is calculated after you have removed the expired items from the shelves (Figure 30).

Figure 29: Disposal of Expired or Damaged Items:

- Expired medicines may no longer be effective and may be dangerous
- Damaged or expired stock should be placed in a designated salvage area
- A written record of all stock consigned to this area should be maintained.
- Expired or damaged stock must be destroyed in accordance with local regulations

Source: Management Sciences for Health. 2008. Mission for Essential Medical Supplies-Inventory Management Module. MSH and Tanzania MOH

EXPIRED OR SPOILED MEDICINES REGISTER

Use this register to track all expired or spoiled medicines and supplies from a health facility. The transactions recorded in the book should be done in the table as shown in the sample below (Table 5).

Table 4: Expired Medicines Register

Date	Expired/spoiled item (with description)	Exp. date/ batch no.	Quantity x unit	Unit Price UGX	Total value of expired items	Witnessed/ taken by	Remarks
02/02/11	Paracetamol 500 mg tab	FT3000	5 x 1,000	5,906	29,530	Ruyooka/ MKali	Taken to DHO
4/10/11	Co-trimoxazole 480 mg tab	12K09	3 x 1,000	23,015	69,046	Ruyooka/ MKali	Taken to DHO
21/12/11	Sulfadoxine/pyrimethamine 500/25 mg tab	A0034	1 x 1,000	34,000	34,000	Ruyooka/ MKhali	Taken to DHO

STEPS FOR THE HEALTH FACILITY TO TAKE

1. Record all expired items in the register along with the price from the most recent invoice.
2. Inform the district authorities or MMSs about the expired items, especially when they come for a supervisory visit. The district will arrange to collect the expired item; fill out and sign a requisition and issue voucher (keep a copy for the facility).
3. At the end of a reporting period (quarterly), calculate the total value of expired stock that has expired and include this in the facility's regular reports.

STEPS FOR THE DHO TO TAKE

1. Make an expired stock register similar to the same format as above, but include an extra column to write the facility from which it was received.
2. Record all expired stock in the register.
3. At the end of each month, calculate the total value of expired stock for the district.
4. Arrange to hold a Board of Survey once a year in accordance with regulations for disposal of public assets. The board of survey will prepare a report in triplicate (see Figure 33).
5. Inform the National Drug Authority if expired stock is to be destroyed locally within the district; NDA is mandated to advise on the suitability of the destruction and supervise the process.
6. The MOH will periodically collect expired medicines for safe disposal or destruction using NMS vehicles or other transporters.

Figure 30: Board of Survey Example

BOARD OF SURVEY REPORT

Department of: Health office of the District Health officer

Proceedings of a Board of survey held at District health Store **on** 15th March 2011

The following unserviceable items were examined

Description of article	Number or quantity	Value		Reason for condemning	Recommendation on how to dispose
Assorted expired medicines and Laboratory reagents	See full list of items and quantities attached	UGX 100,000,000	USD	Expired items	To be destroyed in accordance to NDA guidelines

We the undersigned do hereby certify that we have examined the above mentioned items, and find them unserviceable, except otherwise indicated in the final column. We recommend that the former be disposed of as in that column

Name: Rank:

1. John Asaba Chairman
2. Milly Ayot Secretary
3. Phillip Obbo Member

Date: 15th March 2011 Members of Board of survey

APPROVED: I hereby certify that the items above have been disposed off as authorized:

_____ _____

Officer in charge of stores

Date: .....16th May 2011..... Date: .....16th May 2011.....

Note: The recommendations of the board should not be carried out until approval thereof has been conveyed

Instructions for use

Instructions for Board of survey
Boards of survey will:

1. Find equipment submitted serviceable or not serviceable as the case maybe
2. Recommend as to the items condemned whether they should be a)sold, b)sent to a center for parts to be utilized c) order that they should be destroyed (burned or broken up)
3. The proceedings of the board should be in triplicate. One copy will, if approved, be sent for retention by the officer-in-charge of, and responsible for the equipment, one will be attached to the voucher for replacement or to the revenue return in case of sales, and the original be retained at the district office

Instructions for officer in-charge of movable assets

1. A certificate of destruction should be given by NDA showing how the items will be destroyed
2. In case of sale, the cash should be properly brought to account, supported by the proceedings of the board
3. In case of transfer, a report when dispatched and where to should be availed

\It is suggested that lists of losses should be submitted to each Board of survey with such explanation as may be possible, and that successive lists be forwarded as part of the proceedings of the board with such comments

Key Points

- ➔ Expired medicines should be removed from the shelves in the store and kept in a separate designated area.
- ➔ The removal should be shown on the stock card as an adjustment.
- ➔ The expired items register should be filled with the details of the expired items including the cost.
- ➔ The DHO will advise on when the expired items will be collected for destruction.
- ➔ Before destruction, a Board of Survey will be constituted to write off the items.
- ➔ The National Drug Authority must approve the destruction method and oversee the process.

PART 10: ABUSE, MISUSE, AND THEFT

CHAPTER 18: PREVENTING ABUSE, MISUSE, AND THEFT OF MEDICINES

The security of medicines must be ensured at all levels to prevent theft, abuse, and misuse. If you suspect any problems of this kind, discuss them with your DHO who should be able to give you support.

ABUSE

Patients or staff may become addicted to some of the medicines used in a health facility (e.g., diazepam, pethidine, and amitriptyline).

Patients increase their doses for more effect. Make a careful note of the dates when people on these types of medicines (e.g., diazepam, benzhexol [HC IV]) come to collect their supplies. If they regularly come for a supply earlier than they should, then you need to find out why. The patient may have increased her/ his own dose.

In these cases you will have to—

- Counsel the patient and his or her relatives
- Dispense only a week's supply at a time, to give you a chance to discuss the issue with the prescriber
- If necessary, refer the patient to a higher level of care for more specialized management
- Counsel and involve facility management, if a colleague has become addicted to drugs; to help him or her, it may be necessary to refer the colleague to the higher level of care

MISUSE OF DRUGS

Situations under which medicines are misused include the following:

- Patients take medicines for a shorter time than prescribed and then give or sell the balance to others.
- Patients write their own prescriptions by requesting repeat treatment on their outpatient cards.
- Some people use their status within the community to make health facility staff feel obligated to supply them with medicines that they ask for.
- Health facility staff may pilfer medicines.

When medicines are used without supervision, they can be used incorrectly or to treat the wrong condition, which can lead to—

- The patient not being cured and the disease becoming more complicated and more difficult to treat. Improperly treated conditions, such as sexually transmitted infections, may lead to serious health complications (e.g., sterility or severe abdominal infections)
- Drug resistance
- Over or under dosing
- Loss of life

THEFT OF DRUGS

Medicines are costly and hence prone to theft. The storage and dispensing areas should be locked and access limited to authorised personnel. Theft can occur when medicines or items are removed from a ward, dispensary, storeroom or treatment room without the necessary authority, either by a staff member or an external thief.

How to Detect Theft

- Through the monthly physical count, the difference between the physical count and stock card balance can be detected, but not resolved by an investigation
- A window is broken or a forced attempt is made to enter the storeroom through the roof or the door
- The storeroom is messy from having been searched.

What to Do If Theft Is Discovered

- Report to the supervisor who should inform the police immediately
- Together with the police, assess and quantify the loss
- Draw up a list of stolen goods and quantities
- Determine the cost of the stolen items
- Write a report for the police, and copy the facility and the DHO

It is important to report theft to—

- Replace or recover the goods
- Justify the need for strengthening physical storage facilities
- Quantify the magnitude of the theft in a given period
- Influence decision making and policies regarding theft

WASTAGE OF MEDICINES

Avoiding waste results in substantial savings of stock and money. Below are some causes of wastage—

- Storing medicines poorly by exposing them to heat, light, and moisture
- Letting medicines expire or not redistributing short-dated medicines; avoid this by keeping good stock control and filling in the stock cards
- Giving too many medicines to one patient on one prescription (poly pharmacy)

- Giving medicines without a proper diagnosis, "just to try it" (e.g., giving an antibiotic for any fever of unknown origin)
- Prescribing medicines which are not effective against the patient's condition (e.g., procaine penicillin does not cure chancroid or chicken pox)
- Failing to advise patients on how to use and store medicines correctly
- Overstocking medicines
- Prescribers not following the Uganda Clinical Guidelines (e.g., giving an antibiotic to treat a common cold)
- Not keeping drugs locked up and under strict control thereby making drugs easily available for theft

KEY POINTS

- ➔ Misuse and abuse of medicines leads not only to wasted resources, but may lead to addiction and negative social consequences such as increased antibiotic resistance.
- ➔ Health workers should put measures in place to prevent misuse by strictly following guidelines for storage and dispensing of medicines with high potential for misuse and abuse.
- ➔ Medicines are costly and hence prone to theft. The storage and dispensing areas should be locked and access limited to authorised personnel.

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