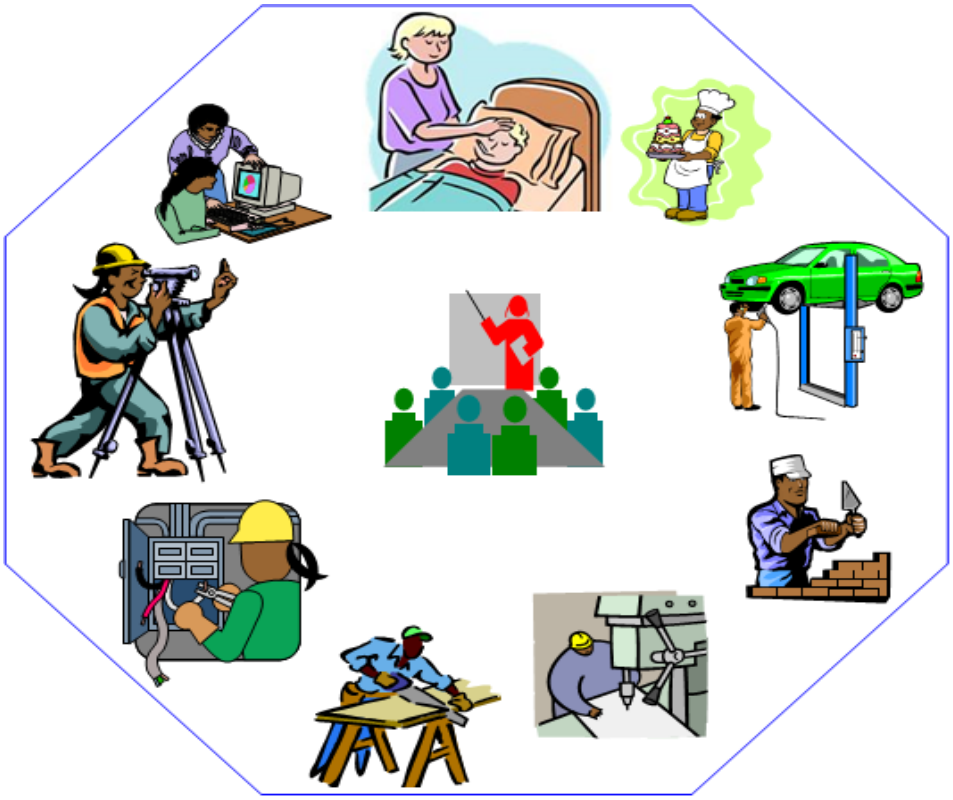
PHARMACY LEVEL IV

Based on Feb 2018 Version 2 OS and Jun, 2018 Version 1 Curriculum



Module Title: - Apply Principles of National Drug Supply Chain Management

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LG# 34.	Lo1. Describing the pharmaceutical supply chain cycle

Instruction

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics

Introduction to essential medicines and national drug policy

Introduction to pharmaceutical supply chain

Components of the pharmaceutical supply chain management

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to**

Describe the purpose of a health logistics system

Identify Some of the major activities within logistics and the range of people who are involved in logistics activities

Describe the components of a logistics system are listed and the interrelationships of these components as they relate to the logistics cycle

Learning Instructions

1 Read the specific objectives of this Learning Guide.
2 Follow the instructions described below.
3 Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4 Accomplish the “Self-checks” which are placed following all information sheets.
5 Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6 If you earned a satisfactory evaluation proceed to “Operation sheets
7 Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
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9 If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet-1	Introduction to essential medicines and national drug policy

1.1. Definition of Essential Medicine

Are those that satisfy the priority health care needs of the population Are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information and at a cost that individuals and the community can afford Health is a fundamental human right. **Access** to health care, which includes access to essential **drugs,** is a prerequisite for realizing that right.

I. Essential medicines

Are medicines that satisfy the priority health care needs of the population and therefore should be available?

- ✓ at all times**,**
- ✓ in adequate amounts
- ✓ in appropriate dosage forms and
- ✓ at a price the individual and the community can afford_

II. Essential drugs concept

Limited number of carefully selected drugs based on agreed clinical guidelines leads to more rational prescribing, to a better supply of drugs and to lower. It is a global concept that can be applied in any country, in the private and public sectors and at different levels of the health care system

1.2 National drug policy and medicine financing

The world pharmaceuticals market has witnessed an increase in the number of pharmaceutical products circulating worldwide, leading to a rapid growth in both medicines consumption. And expenditure However WHO estimates that, as of 1997, at least one-third of the world population still lacks access to EMs, in poorer areas of Asia and Africa this figure may be as high as one-half. Because: EMs are not available or EMs too expensive, or¾there are no adequate facilities or trained professionals to prescribe **Ems**. As a result, millions of children and adults die or suffer needlessly, although their disease could have been prevented or treated with cost-effective and

inexpensive essential medicines.

Experience in many countries has shown that these complicated and interdependent problems can best be addressed within a common framework: WHO recommends that all countries formulate and implement comprehensive national medicine policy (NMP).A policy is not static and will usually evolve over time .Most countries will need to revise their policies within five years

A. What is a national drug policy?

A political commitment to a goal and a guide for action. It expresses and prioritizes the medium- to long-term goals set by the government for the pharmaceutical sector, and identifies the main strategies for attaining them. It provides a framework within which the activities of the pharmaceutical sector can be coordinated. It covers both the public and the private sectors, and involves all the main actors in the pharmaceutical field

B. Why is a national drug policy needed?

- ✓ To present a formal record of values, aspirations, aims, decisions and medium- to long-term government commitments;
- ✓ To define the national goals and objectives for the pharmaceutical sector, and set priorities;
- ✓ To identify the strategies needed to meet those objectives, and identify the various actors responsible for implementing the main components of the policy;
- ✓ To create a forum for national discussions on these issues.
- ✓ The policy document should be developed through a systematic process of consultation with all interested parties. In the Policy process:-

C. Characteristics of a National Medicines Policy

- ✓ Essential part of health policy, must fit within the framework of a particular health care system.
- ✓ Goals should be consistent with broader health objectives
- ✓ Health policy and the level of service provision in a particular country are important determinants of medicine policy and define the range of choices and options.
- ✓ Implementation of an effective medicine policy promotes confidence in the use of health services
- ✓

D. Objectives of a national medicine policy

In the broadest sense an NMP should promote equity and sustainability of the pharmaceutical sector .The general health related objectives is to ensure

- ✓ **Access:** equitable availability and affordability of essential drugs
- ✓ **Quality:** the quality, safety and efficacy of all medicines
- ✓ **Rational use:** the promotion of therapeutically sound and cost-effective use of drugs by health professionals and consumers.

Other Goals of NDP

Economic related goals

- ✓ To reduce foreign exchange for pharmaceutical import
- ✓ To provide jobs (dispensing, pre-packaging, production of pharmaceuticals)

National development goal

1. Develop national pharmaceutical production
2. To take a stand on intellectual property right
3. The specific goals and objectives of a NDP may vary from country to country depending on
   - ✓ Structure of health care system
   - ✓ Capacity of drug regulating authority
   - ✓ Pharmaceutical distribution system
   - ✓ The level of funding of pharmaceuticals‡ The country situation
   - ✓ The national health policy
   - ✓ Political priorities set by the government
   - ✓ Example: Objectives of Ethiopian NDP
   - ✓ To *meet* the country's demand for essential drugs and to systematize its supply, distribution and use.
   - ✓ To create conducive situations to make the prices of drugs compatible with the people's purchasing power.
   - ✓ To ensure the safety, efficacy and quality of drugs.
   - ✓ To develop domestic drug manufacturing capacity and gradual supply to the export market.
   - ✓ To *the* training of manpower and drugs research and development.
   - ✓ To devise ways and means for the utilization of traditional drugs in

the regular health services after ensuring their safety and efficacy.

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is essential medicine?
2. What is national drug policy?
3. List the goal of national drug policy?

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

A. _____
B. _____
C. _____

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Introduction to pharmaceutical supply chain

2.1 Introduction to pharmaceutical supply chain

Pharmaceutical Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, manufacturing and all pharmaceutical logistics activities such as warehousing, Inventory management, Distribution and transportation, customer services. Importantly, it also includes coordination and collaboration with Pharmaceuticals channel partners, which can be suppliers, intermediaries, third party service providers, and customers. Supply chain management integrates supply and demand management within and across channel partners."

2.2 Definition of terms

I. **Pharmaceutical Logistics**: Logistics is the flow of Pharmaceuticals material, related information, and money between consumers and suppliers.

II. **Supply Chain**: - A supply chain is a network that includes vendors of raw materials, plants that transform those materials into useful products, and distribution centers to get those. Products to customers

III. **Supply chain management**: - Managing supply and demand, sourcing raw materials and parts, Manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customer

IV. **Integrated Pharmaceutical Logistics system**: -The Integrated Logistics System is a system for managing various categories of health supplies, using a single set of procedures. The ILS is a type of indent system where Dispensaries, Health centers, and Hospitals order quantities of each supply from resupplying agent, according to their needs and within their budget.

V. **Public Health Facilities**: - these are health facilities owned by the government of Ethiopia and. managed under FMOH or regional health bureaus

VI. **Pipeline**: - The entire chain of physical storage facilities and transportation links through which supplies move from the manufacturer to the user, including port facilities, central ware house, regional warehouses, district warehouses, all SDPs, and transport vehicles, including community based distribution networks.

VII. **Pharmaceuticals, supplies, commodities, goods, materials, products, and stock.** These items flow through a logistics system and are used interchangeably throughout this study and to mean any substance or mixture of substances used in the diagnosis, treatment, mitigation or prevention of a disease, and include medical instruments and medical supplies.

VIII. **Implementation of IPLS: -**According to this study operational definition; IPLS was said to be Implemented if Order fill rate was greater than 80%, Lead time was not more than 4 weeks, Number of emergency order during the last three months not more than one, stock out product must not be more than one per each programs, over stock and under tock couldn't be greater than two items per programs, among assessed malaria, FP, TB and ART items and total Zonal SDPs reporting rate must be greater than 81%. On aggregate IPLS was implemented if 75% the above indicators were implemented.

IX. **Logistics management as**: -"The part of supply chain management that plans, implements, and controls the efficient, effective forward and reverses flow and storage of Pharmaceuticals, services and related information between the point of origin and the point of consumption in order to meet customers' requirement.

X. ***Logistics management*** is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance, and information technology'' (USAIDDELIVER,2011).
In other words, logistics can be considered activities as the operational component of supply chain management, including quantification, procurement, inventory management, warehousing, distribution, transportation and fleet management, and data collection and reporting. Supply chain management includes the logistics activities plus the coordination and collaboration of staff, levels, and functions.

2.3 The six rights of SCM (Supply chain management :)

- ✓ The **RIGHT** goods
- ✓ in the **RIGHT** quantities
- ✓ in the **RIGHT** condition
- ✓ deliver to the **RIGHT** place
- ✓ at the **RIGHT** time
- ✓ for the **RIGHT** cost

2.4 Benefit of SCM (Supply chain management :)

Well-functioning supply chains benefit public health programs in important ways by;

I. Increases program impact

If the system provides a reliable supply of pharmaceuticals, more people are likely to use health services. Customers feel more confident about the health system and the facilities when they have a constant supply of pharmaceuticals. It motivates them to seek and use services.

II. Enhances quality of car

Well-supplied health facilities can provide superior service, while poorly supplied health facilities cannot.
Likewise, well-supplied health workers can use their training and expertise fully, directly improving the quality of care for clients. It helps in increasing their professional satisfaction, motivation, and morale. Motivated staffs are more likely to deliver a higher quality of service.
Customers will also benefit from the consistent availability of commodities.

III. Improves cost efficiency and effectiveness

Reduces losses due to overstock, waste, expiry, damage, pilferage, and inefficiency;
Protects other major program investments
Maximizes the potential for cost recovery

2.5 Objectives and characteristics of supply chain

Specific objectives

- ✓ To assess quantitatively selected inventory management and logistics system management practices within the system, including the use of

recording and reporting formats, transport and distribution, supervision, and training.

- ✓ To determine the prevalence of IPLS implementation at facilities.
- ✓ To assess the logistic system performance, such as order fill rate, stock out rate, reporting. Rate and wastage rate
- ✓ To identify associated factors that affect IPLS implementation to help determine the next. steps needed for logistics system improvements

2.6 The need for logistics

The provision of complete health care necessitates the availability of safe, effective and affordable drugs and related supplies of the required quality, in adequate quantity at all times. Despite this fact, in the past, the pharmaceutical supply chain management system of the country had several problems including non-availability, unaffordability, poor storage and stock management and irrational use

Logistics is the branch of science relating to procuring, maintaining and transporting materiel, personnel and facilities. The term logistics comes from the Greek logos, originally used to describe the science of movement, supplying and maintenance of military forces in the field. Logistics involves the integration of information, transportation, inventory, warehousing, material handling and packaging along with security. Logistics is that part of the supply chain which plans, implements and controls the efficient, effective forward and reverse flow and storage of goods, services and related information's between the point of origin and the point of consumption in order to meet customer and legal requirements. Currently supply chain of products is built around flexibility, responsiveness and reliability shifting the supply paradigm from a stock-based model to an order-based model

In other words, logistics can be considered activities as the operational component of supply chain management, including

Quantification, Is the calculation of required quantities of medicines, tests or services essential to correctly treat patients for a certain period of time—usually one year for the national level and one month to a quarter for the district and/or health center level.

- ✓ Procurement, procurement system is a major determinant of pharmaceutical availability and total pharmaceutical costs

- ✓ Inventory management, Inventory management is part of "Supply Management". In this lesson we will revise the term "Inventory Management" to refer to

the particular and specific issues involved in the management of storing products. Refers to the processes involved in ensuring that adequate stocks of products are kept, quality maintained and that program and service delivery points have the needed products available when they need them.

- ✓ Warehousing,, Warehouse is a central hub in the supply chain, where inventory is received from vendors/suppliers and stored until it's eventually distributed to consumers.
- ✓ Store is a location where materials are preserved while storage is a means of organizing and handling inventory in stores.

- ✓ Distribution: - Involves arrangements for the physical transport of products from center level to intermediary storage points to the final service delivery points.
- ✓ Transportation and
- ✓ Fleet management, and data collection and reporting. Supply chain management includes the logistics activities plus the coordination and collaboration of staff, levels, and functions

Information Sheet-3	Components of the pharmaceutical supply chain management

Components of the pharmaceutical supply chain management

- ✓ Management support
- ✓ Organization
- ✓ Financing and sustainability
- ✓ Information management
- ✓ HR management

Self-Check -2	Written Test 2

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page

1. What is difference between integrated pharmaceutical logistic system and supply chain management?
2. Define logistic system
3. Write the six right of supply chain management?

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

1. _____
2. _____
3. _____

Score = _____

Rating: _____

Name: _____ Date: _____

LG#35	LO 2: selection of Pharmaceuticals

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- selection of Pharmaceuticals
- Quantification of pharmaceutical

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Explain step of drug selection and criteria of drug selection
- Describe quantification method
- Confirm delivery time ,average monthly consumption

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
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Information sheet 1	Selection of Pharmaceuticals

1.1 Introduction to selection of Pharmaceuticals

1.2 Drug Selection:

Is the process of determining which types of medicines should be used for what clinical indications? It is often done by a committee (Drugs and therapeutic committee) that includes clinicians, pharmacists, policy makers and others.

Drug selection is a process of deciding the type of drug products needed for the prevalent diseases. Resources are limited and choices have to be made. A limited list of drugs for procurement, based on an essential drugs list or drug formulary, defines which drugs will be regularly purchased, is one of the most effective ways to control drug expenditure. Drug procurement based on an essential drugs list or drug formulary allows the health system to concentrate resources on the most cost-effective and affordable drugs to treat prevailing health problems.

The selection of drugs based on a national formulary or national list allows for concentrating on a limited number of products. Larger quantities may encourage competition and lead to more competitive drug prices. Reducing the number of items also simplifies other supply management activities and reduces inventory-carrying costs.

Key Factors that should be considered in drug selection include:-

- ✓ Keeping costs of drugs and dosage forms affordable and cost-effective so as to optimize the use of financial resources;
- ✓ Having drugs available for the treatment of most prevalent diseases, ailments, sicknesses and the levels of care provided;
- ✓ Availability of safe, effective and good-quality drugs
- ✓ National health policy like program pharmaceuticals (free service, exempted services) and revolving drug fund (RDF) pharmaceuticals
- ✓ Locally manufactured drugs should have get priority.
- ✓ Training and experience of available personnel

1.3. Criteria for selections of medicines, laboratory reagents, supplies and medical equipment's

Basic steps and criteria in drug selection

I. Establish drug selection committee with an appropriate representation.
II. Determine the prevalent health problems and patient characteristics
III. Decide which health problems may be treated at the lev unit before selection.
IV. Choose the drugs to be used for the health problems

Structure the list of drug products The list of selected drug should be categorized: Pharmaco-therapeutically and/or alphabetically. By the level of health care
If the prepared list includes drug products to be used by different level of health care and dispensing units, it should be structured accordingly to the level of importance (VEN).

‡ All the drugs included in the list may not be equally important and hence, they should be categorized by the level of importance into three categories

A. Vital drugs (very essential)
Which are potentially life - saving and have major importance in basic health services. E.g. Anti -malaria, ORS, vaccines, etc.

B. Essential drugs☞ which are effective against less life threatening but significant health problems e.g. certain antibiotics

C. **Non-essential** ☞This are used for minor or self -limiting health problems or have a high cost and low therapeutic advantage. E.g. cough syrup, antacid tablet or suspension**.**

N.B:- This type of classification help in setting priority for drug purchasing and stock keeping.

Information Sheet-2	Quantification of pharmaceuticals

2.1 Introduction to quantification

Quantification: - Is the calculation of required quantities of medicines, tests or services essential to correctly treat patients for a certain period of time—usually one year for the national level and one month to a quarter for the district and/or health center level.
Or is the process of determining/calculating the amount of drugs/ products needed. The management of the drug supply works best when products are available. Supplies are more likely to be available if ordered regularly. Supplies should be ordered based on their use (consumption). If you order supplies based on consumption, you will have the supplies you need when you need them

2.2. Quantification methods

There are four drug quantification methods. These are:

A. Consumption method
B. Morbidity method
C. Adjusted consumption method
D. Service level projection budget requirement

However, the first two are the most commonly used methods of drugs quantification in our country.

A. Consumption Method: uses records of past consumption of individual drugs.
B. Morbidity Method: estimates the need for specific drugs based on the expected number of attendance, the incidence of common diseases and the standard treatment patterns for the diseases considered. Each of the method has its own advantage and disadvantage as detailed in table below:

Table: - Comparison of Quantification Methods

Method	Uses	Essential Date	Limitations
Consumption	First choice for procurement and future consumption forecasts	Reliable inventory records, Records of supplier lead time, Projected drug costs	Must have accurate consumption data can perpetuate irrational use
Morbidity	Estimating need in new programs or disaster assistance	Data on population and patient attendance; Actual or projected incidence of health problems; Standard treatment; Projected drug costs	Morbidity data not available for an diseases; Standard treatments may not really be used

2.3 Estimation of drug requirements

The estimate of the drug and medical supplies required for a given period is undertaken:
To avoid shortages (out of stock) and ensure credible health care service. To prevent excess stock and avoid waste (loss or mismanagement of financial resources).Factors that influence choice and quantity of drugs include:

Catchment population which the health institution serves, Disease pattern and seasonal variation in disease pattern, Monthly (rate of) drug consumption, Knowledge of quantity of each dosage form that is regularly consumed, Delivery (lead) time, Request indicator (re-order level). Quantity of drug product that serves as a signal for re-ordering.

The three factors—delivery (lead) time, monthly consumption and request indicator—are considered as the basis for calculating the appropriate quantity of a particular drug to be ordered. So let us look these three factors one by one.

Delivery (lead) time: - it is time lag between placing orders and receiving the orders. It is important to establish how long it takes to have a drug delivered and receipted in the store so that the drug does not become out of stock. Delivery

time may be days, weeks or even months due to the following factors:

Poor road conditions, particularly in the rainy season, Poor condition of delivery vehicles ,Increased work load at the issuing store (e.g. Pharmaceutical Fund and Supply Agency)Stock out of drugs at the central store (Pharmaceutical Fund and Supply Agency),Consumption rate of drugs at Health centers

Monthly consumption is obtained by calculating the average consumption over period of time (e.g. six months)or dividing the total consumption over the period by the number of months the a drug was consumed. It is also known as average monthly consumptions (AMC).

Note: *AMC= Total consumption/ Number of months*
*According to Ethiopian Integrated Pharmaceutical logistics System (IPLS) 3monthsperiod is used to calculate average monthly consumption

Example 1: Average monthly consumption
The first method of calculating monthly consumption; is to add the quantity of drugs in stock at the beginning of a period (e.g., six months) to the quantity of drugs received during that same period and then subtract the quantity of drugs remaining at the end of the period look at the following transaction in X health center.
March 2017, quantity of paracetamol 1,000 x 500-mg tablet containers in stock =14
June 2017, quantity of paracetamol 1,000 x 500-mg tablet containers received =8
August 2017, quantity of paracetamol 1,000 x 500-mg tablet containers, remaining stock= 6
➔Therefore, total quantity of paracetamol 1,000 x 500-mg tablet containers consumed over a six-month period = 14 + 8 – 6 = 16.
AMC= Total consumption/Number of months
AMC = 16/6
Average monthly consumption to the nearest container = 8/3
Example 2: Average monthly consumption
A second method of calculating the average monthly consumption is to obtain data on consumption from the bin card on a monthly basis and then find an average over a period of time.

April 2000	**2 x 1,000 tablets**
May 2000	4 x 1,000 tablets
June 2000	2 x 1,000 tablets
July 2000	2 x 1,000 tablets
August 2000	3 x 1,000 tablets

September 2000	3 x 1,000 tablets

16 x 1,000 tablets

Average monthly consumption is 16 x 1,000 tablets /6= 8/3 containers
Average monthly consumption of container to the nearest container = 3

Example 3:Monthly consumption

A third method of calculating average monthly consumption is to obtain data on actual consumption from the daily use record or daily use/cash record .Data of monthly consumption of paracetamol 500-mg tablets over a six-month period.

April	2000	2,000	tablets
May	2000	3,100	tablets
June	2000	2,300	tablets
July	2000	2,100	tablets
August	2000	3,100	tablets

September 2000 3,200 tablets

Total six months	15,800 tablets

Average monthly consumption of tablet is15,800/6 = 2633.3 tablets
Each container has 1,000 tablets. Therefore the average monthly consumption of

1,000-tablet tin = 2633.3/1000 = 2.6 tins
Average monthly consumption of paracetamol 500-mg tablets to the nearest container =3

2.4 Budget reconciliation

The need of drugs should be reconciled with funds allocated for drugs purchasing. This can be done by using:

I. VEN analysis:

The VEN system sets priorities for drug selection and drug procurement according to the potential health impact of individual drugs. **V (vital)** – drugs, which have a potentially of life saving, are categorized as vital. This category of drugs should be available all the time in the health facilities .E.g. ORS, Vaccines, Antimalarial etc. **(Essential**) – dugs, which are effective against less life threatening (common problems), are categorized as

essential E.g. Certain Antibiotics **N (Normal uses)** – drugs used for minor or self-limiting health problems. E.g. cough syrup, antacid

II. ABC analysis:

ABC analysis is an extremely powerful tool, with uses in selection, procurement, management of distribution, and promotion of rational drug use. Class A item (10 to 20% of items, 75 to 80% percent of expenditures are mostly high volume, fast moving drugs. Class B item are usually 10 to 20% of items and 15 to 20% of expenditures Class C items often represent 60 to 80% of the items but only about 5 to 10% of expenditures, these are the low – volume, slow moving items. Thus, Class C is a good place to look for items that might not be needed in stock at all times

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 Write four drug quantification method
2 Define the quantification
3 What is delivery time

Note: **Satisfactory rating –3 points** **Unsatisfactory - below 3 points**

Answer Sheet

1._____
2._____
3._____

Score = _____

Rating: _____

Name: _____ Date: _____

LG36	LO3. Procurement of Pharmaceuticals

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Introduction to procurement and procurement terms
- Procurement methods and management
- Procurement process
- Factors influencing price
- National Procurement rules and regulations
- Procurement data Storage

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Describe and differentiate terms in the procurement
- Identify factors affecting pharmaceuticals and Medical supplies cost
- Apply different procurement method based on context
- List common procurement challenges

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Information Sheet-1	Introduction to procurement and procurement terms

1.1 Introduction to procurement and procurement terms.

Act of obtaining/buying goods &services from external source which ensures that buyer receives goods, services at the best possible price

Procurement" is the overall function that describes the activities and processes to acquire goods and services. Importantly, and distinct from" purchasing", procurement involves the activities involved in establishing fundamental requirements, sourcing activities such as market research and vendor evaluation and negotiation of contracts. It can also include the purchasing activities required to order and receive goods.
The pharmaceutical procurement system is a major determinant of pharmaceutical availability and total pharmaceutical costs. In most developing countries, pharmaceutical purchases represent the single largest health expenditure after personnel costs.

Pharmaceuticals also consume the major share of health-related foreign currency exchange as it was defined above, procurement is process of purchasing selected and quantified products/drugs for use. An effective procurement process ensures the availability of five rights.

- ✓ The right drugs
- ✓ In the right quantities
- ✓ At reasonable right prices
- ✓ At recognized standards of right quality
- ✓ quality of drugs received right suppliers

1.2 Procurement methods and management

There are four types of procurement methods used to purchase drugs. These are open tender, restricted tender, competitive negotiation & direct procurement. They vary with respect to their effect on price, delivery times, and work load of the procurement office.
The procurement method chosen should. Obtain the lowest possible purchase price for high quality products. Ensure suppliers' reliability, in terms of both quality and service. Maintain transparency in the process and minimize the opportunity for illicit influences on procurement decisions. Achieve these objectives with the least possible professional and clerical staff time and within the shortest possible time.

Table: - Advantages and disadvantages of procurement methods

Procurement method	Advantages	Disadvantages
Open tender	Many bids, some with low prices New supplies can be identified	High workload required in evaluating bids and selected suppliers
Restricted tender	Fewer bids, prequalified suppliers, Quality easier to ensure	Fewer bids, more limited options A system for prequalification of suppliers must be in place
Competitive negotiation	Suppliers generally well known, less evaluation work	Generally higher prices
Direct procurement	Easy and quick	High prices

2.3 Principles of Drug Procurement:

Good procurement is a linchpin of access to quality and appropriate medicines.
The WHO, in partnership with UNICEF, United Nations Population Fund (UNFPA) and the World Bank, has drawn on a common bank of extensive experience to produce "Operational Principles for Good Pharmaceutical Procurement "to assist all involved in procurement to obtain lower prices, better quality and more reliable delivery of essential medicines, based on four strategic objectives:,

1. Procure the most cost-effective drugs in the right quantities.
2. Select reliable suppliers of high quality products.
3. Ensure timely delivery.
4. Achieve the lowest possible total cost.

The **12 guiding principles** of good Drug procurement, grouped in four categories, are outlined below:

A. Efficient and Transparent Management

I. Different procurement functions and responsibilities (selection, quantification, product specification, pre-selection of suppliers and adjudication of tenders) should be divided among different offices, committees and individuals, each with the appropriate expertise and resources for the specific function.

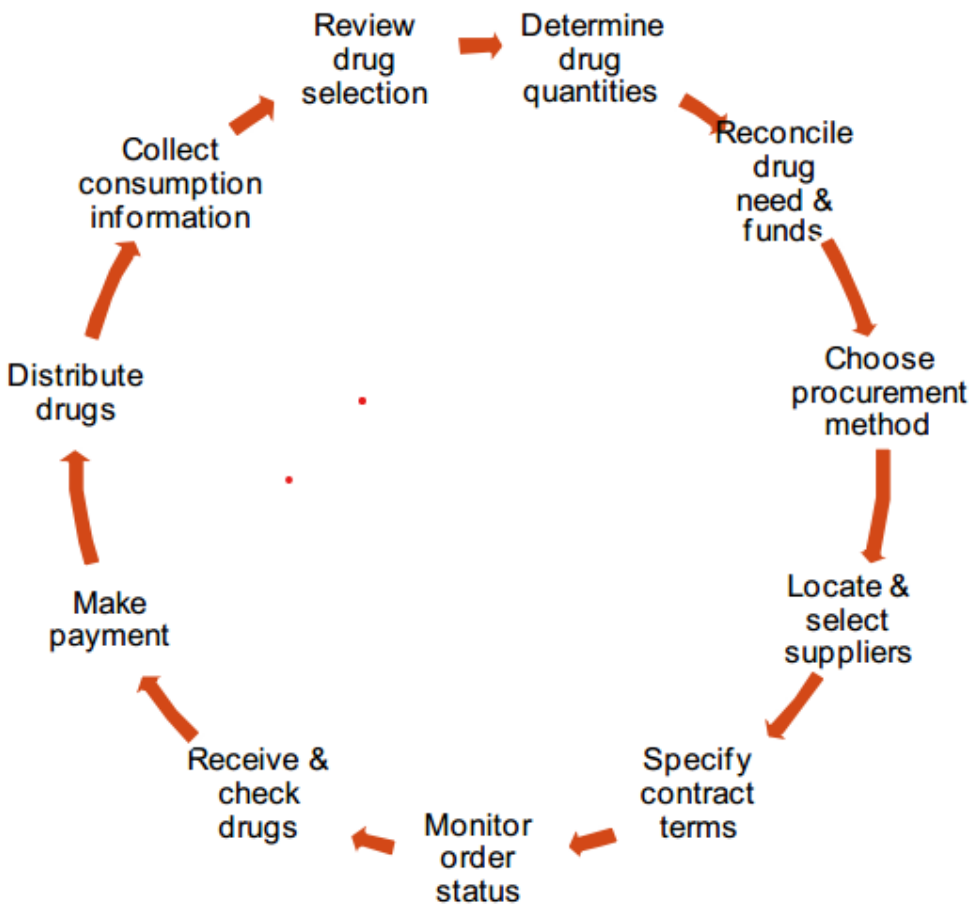
II. . Procurement procedures should be transparent, following formal written procedures throughout the process and using explicit criteria to award contracts.

III. . Procurement should be planned properly and procurement performance should be monitored regularly; monitoring should include an annual external audit.

2.4 Procurement process

In view of the ever developing sophistication, modernization, automation and up-gradation of manufacturing technologies competing environment, an efficient procurement system is the. only way to improve access to medicines for the majority of the population within the given budgetary ceilings Since availability of financial resources is always a constraint for developing countries, it becomes all the more important to improve efficiency in all aspects of management in the countries .

The procurement cycle includes most of the decisions and actions that determine the specific medicine quantities obtained, prices paid, and quality of medicines received



2.5 Factors influencing price

I. Unit prices

Increasing competition among suppliers usually decrease drug price the number of different drug products and different generic versions of the same product on market influence competition and pricing. Government policies on registration, licensing for manufacturing & distribution, authority to prescribe & dispense, generic substitution & price control, may influence the price of drugs. The type of procurement method used greatly influences how much competition there is among potential suppliers

II. Purchasing models & the total variable cost of purchasing

Total purchasing costs can be minimized by choosing the optimal purchasing model. There are three common purchasing models used in drug supply system

1. Annual purchasing

- ✓ one regular order per year, but mechanism exists to make supplementary purchases during the year
- ✓ drug purchase prices per unit are usually lower
- ✓ may result in shortage or surpluses
- ✓ high inventory holding costs
- ✓ more storage space is required
- ✓ less transportation cost

2. Scheduled purchasing

- ✓ specific ordering windows are determined & regular orders placed only at the scheduled intervals
- ✓ less storage space is needed
- ✓ less inventory holding costs
- ✓ Items with variable demand can be purchased more frequently in smaller lots, reducing overstocking & costly emergency order
- ✓ make better use of limited drug budget

3. Perpetual purchasing

- ✓ orders are placed whenever stock falls to a specified level
- ✓ ready access to funds
- ✓ good access to communication with suppliers & user units

2.6 National Procurement rules and regulations

BASIC PROCUREMENT RULES

I. RECORDS OF PROCUREMENT

Public bodies shall have to maintain records and documents regarding their public Procurement listed in article 23 of the Proclamation and other pertinent documents.

II. FORM OF COMMUNICATION

All communications between parties of the procurement (Applicants, Bidders Suppliers, Contractors, Consultants and public bodies) shall be in writing. The purpose of this is to ensure all communications between the parties are legally binding. Public Procurement and Property Administration Agency Public Procurement Manual communications, indicated by the signing of the communication by the sender or an authorized officer/nominee of the sender.

III. ELIGIBILITY AND NON-DISCRIMINATION

Public Procurement is open to all persons regardless of nationality and/or race or another criterion not having to do with their qualifications, international obligations or decisions taken against them under Proclamation and Directive. This principle shall not apply when there is a standing Government Order or an agreement signed by the Government prohibiting the participation of a particular category of persons, for example:

A. the use of funds for public procurement which has been provided by a bilateral development partner and participation is restricted to Bidders/Consultants whose nationalities are from certain countries unless a decision is made otherwise the loan or grant agreement as determined by the legal/financing agreement signed between Ethiopia and the financier;

B. the use of funds for public procurement which has been provided by a multilateral development agency and participation is restricted to Bidders/Consultants from member countries of that development agency only;

IV. QUALIFICATION OF CANDIDATES

Order to participate in public procurement, candidates shall provide evidence to demonstrate that they are suitably qualified and capable for award of contract.

V. USE OF APPROVED LISTS OF SUPPLIERS

The objectives of establishing lists of suppliers are:-

- ✓ Maintain database list of suppliers /contractors/consultants;
- ✓ To maintain information on the progress, status and development of domestic Suppliers/contractors/consultants;

To develop different methods by learning from experience gained from relations with Suppliers with the view of increasing value for money from procurement.

VI. REJECTION OF ALL BIDS, PROPOSALS AND QUOTATION

A public body reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. Contract award is the point at which a public body issues the Letter of Award to a successful Bidder.

VII. CORRUPT, FRAUDULENT, COLLUSIVE OR COERCIVE PRACTICES

The Government of the Federal Democratic Republic of Ethiopia represented by the Public Procurement and Property Administration Agency (PPA) requires Public bodies, as well as bidders to observe the highest standards of ethics during the procurement and the execution of contracts. In pursuance of this policy, the Government:
Defines, for the purposes of this provision, the terms set forth below as follows:

"Corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the action of a public official in the procurement process or in contract execution;

"Fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

"Collusive practices" is a scheme or arrangement between two or more Bidders, with or without the knowledge of the Public Body, designed to establish prices at artificial, non-competitive levels; and

"Coercive practices" is harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract.

Obstructive practice is: deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to. materially impede the Federal Ethics and Anticorruption Commission, the Federal Auditor General and the Public Body or their auditors investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent their from disclosing their knowledge of matters relevant to the investigation or from pursuing the investigation.

3.6 Procurement data Storage

Storage and Product Shelf Life

Shelf life is the length of time a product may be stored without affecting the usability and safety of the item, if the product is stored under the prescribed conditions.
Storage Guidelines. In general, supplies should be protected from sun, heat, and water. Follow manufacturer recommendations for storing supplies. This information is usually

printed on the product carton and boxes.
The following are general storage guidelines for pharmaceuticals.
Clean the storeroom regularly.

- Pests are less attracted to the storeroom if it is regularly cleaned and disinfected.
- If possible a regular schedule for extermination will also help eliminate pests. Keep food and drink out of the storeroom.
- Store pharmaceuticals in a dry, well-lit, well- ventilated storeroom – out of direct sunlight.
- Extreme heat and exposure to direct sunlight can degrade drugs and other pharmaceuticals and dramatically shorten shelf life.
- Temperatures in the storeroom should not exceed 25oC.
- Direct sunlight raises the temperature of the product and can reduce its shelf life.
- Drugs should not be opened to repackage them. Store supplies in their original shipping cartons
- Protect storeroom from water penetration
- Water can destroy both supplies and their packaging. If the packaging is damaged, the product is still unacceptable to the patient even when the pharmaceutical is not damaged. Repair the storeroom so that water cannot enter.
- Stack supplies off the floor on pallets at least 10 cm high and 30 cm away from walls as moisture can seep through walls and floors. ARV drugs and fluconazole are particularly sensitive to moisture.
- Keep fire safety equipment available, accessible, and functional, and train employees to use it.
- Stopping a fire before it spreads can saves expensive supplies and the storage facility. The right equipment should be available; water is able to put out paper fires, but is ineffective on electrical and chemical fires.
- Place well-maintained fire extinguishers at suitable positions in the storeroom. If a fire extinguisher is not available, keep sand or soil in a bucket nearby. Regardless of the method used, train the staff in the use of the available fire safety equipment.
- Store latex products away from electric motors and fluorescent lights.
- Latex products can be damaged if they are directly exposed to fluorescent lights and electric motors.
- Electric motors and fluorescent lights create the chemical ozone

which can rapidly deteriorate latex products. Keep latex products in paper boxes and cartons.

Maintain cold storage, including a cold chain, as required.

- ✓ Cold storage (2 to 8 degrees Celsius; 36 to 46 degrees Fahrenheit) is essential for maintaining the shelf life of certain pharmaceuticals that require it. These items are irrevocably damaged if the cold chain is broken.
- ✓ If electricity is unreliable, the use of cylindered gas or kerosene-powered refrigeration is recommended. Many drugs require storage below 25 oC. Some drugs require refrigeration, that is storage between 2- 8 o C.
- ✓ Limit storage area access to authorized personnel and lock up controlled substances.
- ✓ To prevent theft and pilferage, lock the storeroom and/or limit access to personnel other than authorized staff, and track the movement of drugs and other pharmaceuticals.
- ✓ Access must not, however, prevent appropriate distribution; a spare set of keys should be kept in the office of the facility or pharmacy In-Charge. Physical counts should be conducted on a regular basis to verify inventory records.
- ✓ Stack cartons at least 10 cm off the floor, 30 cm away from the wall and other stacks, and no more than 2.5m high.
- ✓ Pallets keep the products off of the floor so they are less susceptible to pests, water and dirt damage. Stack cartons on pallets 30 cm away from the walls and from each other to promote air circulation and to ease movement of stock, cleaning and inspection.
- ✓ Do not stack cartons more than 2.5m high, as the weight of the products may crush the cartons at the bottom. This will also reduce potential injury to warehouse personnel. If cartons are particularly heavy, stack cartons less than 2.5m high.
- ✓ At health facilities, where the use of pallets is inappropriate, shelving should be used.
- ✓ Store medical supplies away from insecticides, chemicals, old files, office supplies and other materials.
- ✓ Exposure to insecticides and other chemicals may affect the shelf life of pharmaceuticals. Old files and office supplies may get in the way and reduce space for medical supplies or make them less accessible. —Dejunk the storeroom regularly to make more space for storage.
- ✓ Store flammable products separately from other products. Take appropriate safety precautions.
- ✓ Some medical procedures use flammable products, such as alcohol, cylindered gas, or mineral spirits. Such products should be stored

away from other products and near a fire extinguisher.

- ✓ Store pharmaceuticals to facilitate FEFO procedures and stock management.
- ✓ FEFO (First Expired, First Out) is a method of arranging drugs in a storage facility where the drugs are managed by their expiry date. Drugs that will expire first are issued first, regardless of when they were received at the health facility.
- ✓ Arrange cartons with arrows pointing up, and with identification labels, expiry dates, and manufacturing dates clearly visible.
- ✓ Identification labels make it easier to follow FEFO, and make it easier to select the right product. Items should be stored according to manufacturer‘s instructions on the cartons; this includes paying attention to the direction of the arrows.

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Define the procurement
2. Write four drug procurement methods
3. Write factors influencing price

Note: **Satisfactory rating –3points** **Unsatisfactory - below 3 points**

Answer Sheet

1._____
2._____
3._____

Score = _____

Rating: _____

Name: _____ Date: _____

LG37	LO4. Reporting and Ordering pharmaceuticals

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Records and ordering forms in IPLS
- Reporting by health posts
- Reporting and ordering by Hospitals and Health Centers
- Stock status assessment
- Placing emergency orders

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Determine recording drug and medical equipment
- Conform report and requisition form
- Determine emergency

Learning Instructions:

1 Read the specific objectives of this Learning Guide.
2 Follow the instructions described below.
3 Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4 Accomplish the “Self-checks” which are placed following all information sheets.
5 Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6 If you earned a satisfactory evaluation proceed to “Operation sheets
7 Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8 If your performance is satisfactory proceed to the next learning guide,
9 If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet-1	Records and ordering forms in IPLS

1.1 Records and ordering forms in IPLS

Recording form in IPLS Bin Cards and Stock Record Cards are used to account for products held in storage, including their receipt and issue. In the IPLS valuable information used to make re-supply decisions is recorded on the Bin Card and Stock Record Card; data from these records are used in reporting, calculating reorder quantities and for monitoring stock levels .The Bin Card is used at all health facilities (Health Post, Health Centre and Hospital); the**.** Stock Record Card is used only at the health centers and hospitals. It is essential that personnel responsible for the management of pharmaceuticals maintain up-date and accurate Bin Cards and Stock Record Cards for each product and individual units of issues for products having more than one units of issue

Information Sheet-2	**Reporting by health posts**

2.1 Reporting by the Health Posts

Health Posts complete one part of the *Health Post Monthly Report and Re-supply Form* every month and carry the report to the health center. The health center uses the information found on the *Health Post Monthly Report and Re-supply Form* to complete the form and calculate the quantity of pharmaceuticals needed by the health post. Each month, the health center will issue enough stock to bring the health post up to its Maximum Stock Levelof2monthsofstock for each product

The following job aid provides instructions on how to complete the *Health Post section of the*. *Health Post Monthly Report and Re-supply Form*

JOB AID: Completing the Health Post Section of the Health Post Monthly Report and Re-supply Form

Task: Completing the Health Post Section of the Health Post Monthly Report and Re-supply Form

Completed by: Health Extension Worker

Purpose: To report the logistics data that the health center needs to calculate the issue quantities for each pharmaceutical

When to perform: At the end of the month and send it until the 5th day of the current month

Materials needed: Bin Card for each pharmaceutical, blank Health Post Monthly Report and Re-supply Form and copy of the previous month‘s Health Post Monthly Report and Re-supply Form.

Note: The health extension worker comes with three copies of HPMRR to health center for resupply. After the store manager completed the health center section; two copies should be given to the Health Centre and one copy should remain in the booklet for the Health Post. The Health Centre will one copy to the Woreda

Step	Action	Notes
1.	**Name of the Health Post:** Write the name of the Health Post for which the report is being completed.	
2.	**Supplying Health Centre**: Write the name of the Health Centre from which you will receive your products.	The Supplying Health Centre is assigned by MOH (Woreda Health Offices).
3.	**Current Reporting Period, From: … To:** Write the starting month, day and year and the ending month, day and year that covers the reporting period.	The Reporting Period should be from the 1st day of the month through to the last day of the month. Example: Ginbot 1, 2005 – Ginbot 30, 2005
4.	**Maximum Level (pre-printed):** The Maximum Stock Level for the Health Post.	The maximum stock level for the Health Post is 2 months of stock.
5.	**Serial Number (Ser. No.) (Pre-printed):** The serial number of the product on the form.	Example: 1, 2, 3 …
6.	**Product Name (pre-printed):** The name and description of each pharmaceutical.	If reporting on products that are not listed, write the Product Name and description on a blank row.
7.	**Unit (pre-printed):** The unit for each pharmaceutical.	If reporting on items that are not listed, write the unit for the item next to the Product Name and description on a blank row.

8.	**Beginning Balance (A):** Write in the quantity of stock you had available at the beginning of this reporting period.	This information is on the Bin Card, it is the quantity of product you started with. The Beginning Balance for the current month should be the same as the Ending Balance from the previous month.
9.	**Quantity Received (Column B):** Write the quantity of the item received during this reporting period.	This information is the sum of the quantities found in the ―Received‖ column of the *Bin Card* for the dates during the current reporting period.
10.	**Losses/Adjustments (C):** Write the total quantity of the item lost or adjusted during this reporting period.	This information is the sum of the quantities found in the ―Losses/Adjustments‖ column of the *Bin Card* for the dates during the current reporting period. Write any remarks related to the loss/adjustment in the Remarks section;
11.	**Ending Balance (D):** Write the quantity of the product on hand at the end.	Conduct a physical count to determine the Stock on Hand. Stock on Hand can also be found on the *Bin Card*, if the *Bin Card* is up-to-date.
12.	**Remarks:** Write any remarks related to the product or any explanation related to losses and adjustments that you have reported.	Remarks on losses and adjustments should be found on the *Bin Card*.

13.	**Completed by Health Centre section**: Leave all columns in this section blank.	The store manager at the supplying Health Centre will complete these columns for you.
14.	**Completed by/Signature/Date:** Write your name, sign the report and write the date on which the report was completed.	The report should be completed and signed until the **3rd day of the month**.
15.	Take all copies of the report with the completed report to the Health Centre.	The report should be taken to the Health Centre for re-supply until the **5th day of the month**

The task is complete when:
The Health Extension Worker has completed the information identifying the facility and the reporting period, completed the information required for each product, and signed and dated the report. The Health Extension Worker has taken the report to the Health Centre for re-supply.

Self-Check -2	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page

CHOOSE THE BEST ANSWER

1. Report format used by heath post is

   A, HPMRR B.RRF C. stock card D, IFRR

2. When to perform HPMRR?

   A, monthly B, every two month C, every 3month D, weekly

3. Maximum level for health post are

   A, 4month B, 3month C, 2month D, 1month

4. Minimum level for health post

   A, 1month B, 2month C, 3month D, 4month

5. One is not content for HPMRR

   A, price B, batch number C. expiry date D. all

Note: **Satisfactory rating –5points** **Unsatisfactory - below 5 points**

Answer Sheet

Answer sheet

Score = _____

Rating: _____

1. _____
2. _____
3. _____
4. _____
5. _____

Name: _____ Date: _____

Information Sheet-3	Reporting and ordering by Hospitals and Health Centers

3.1 Reporting and ordering by the Hospitals and Health Centers

This section of the manual addresses the process for reporting on and ordering pharmaceuticals. Hospitals and Health Centers use the *Report and Requisition Form (RRF)* to: Report on the quantities of pharmaceuticals used, lost or transferred, and the quantities of stock available Order pharmaceuticals

The actual *RRF* used by hospitals and health centers to report and order pharmaceuticals are the same except the *hospital RRF* includes larger number of pre-printed items on the form than the health centers**.** And also, to improve pharmaceuticals management by level, the specific RRFs will have 5 subgroups (pads) for program and 4 for RDF pharmaceuticals:

RRF 1 - Hospitals and ART Health Centers (Program Medicines)
RRF 2 - PMTCT Health Centers (program medicines and laboratory Regents)
RRF 3 - Special Lab Monitoring Sites (Program Reagents, Supplies and Diagnostics)
RRF 4 - Hospitals and Lab Monitoring Health Centers (Program Reagents, Supplies and Diagnostics)
RRF 5: Non Lab Monitoring ART Health Centers (Program Reagents, Supplies and Diagnostics)
RRF 6 - Hospitals (RDF Medicines)
RRF 7 – Health Centers (RDF Medicines)
RRF 8 – Hospitals (RDF Supplies and Diagnostic Reagents)
RRF 9- Health Centers (RDF supplies and Diagnostic Reagents

In preparing the order for pharmaceutical to be purchased, the facility should complete

The cos analysis worksheetll to know the monetary value of products to be ordered. If the budget is insufficient to order all pharmaceuticals, the facility should do VEN analysis and order all pharmaceuticals in Group V first, the items in Group E second, and the Group N items last as funds allow. Additional funds from other sources can be used to supplement the budget. Products are needed to be reported in agreed upon defaults units, which are preprinted in level specific RRF. That is, all other units of issue should be converted to the default unit to be added later on the product with default unit

Using the following conversion factor:

Conversion Formula = Number of Units in the pack X Quantity in the Bin Card +... Number of Units in each standard pack For products coming in individual patient kit form the unit of issue remains kit or no need to convert the unit to other default unit of issue .Facilities that submit their **RRF** on time should always have sufficient stocks of pharmaceuticals to serve their patients. Facilities should send their completed and approved

RRF to PFSA until the 10th day of the month following the end of the reporting period**.** Health centres that are served through WoHO should submit the original and one copy ofRRF to WoHO until the 5th day of the month. Woreda health offices will send the original RRF reports to affiliated PFSA branch until the 10th day of the month on the behalf of the health centres. For example, if the last month of the reporting period was Tikimt, the **RRF** would be due at PFSA by Hidar 10th.At PFSA, data from RRF will be used for national quantification and procurement activities after being aggregated in addition to routine resupply decisions.

In addition, Hospitals and Health Centres should submit a copy of the **RRF** to RHB/ZHD/WoHO until the 10th day of the month following the reporting period as specified. Below The **RRF** has 3 copies. Copies are distributed and kept during the process as follows:
Hospital or Health Centre complete 3 copies of the **RRF**
Sends 1 copy to PFSA**.** Sends 1 copy to administrative body (RHB/ZHD or WoHO)**.** Keep one copy with them

The RRF form may be sent by post, electronically (for HCMIS FE sites), courier or hand carried. It is important that it should be received as quickly as possible after completion. If a facility has a facsimile (fax) machine, the RRF should be faxed to PFSA and to the appropriate management unit, and then the original copies would be sent by post. The following job aid describes how to complete the Report and Requisition Form.

Pharmaceuticals logistics data (RRF) acquisition options

Completed RRFs at SDPs should reach to respective PFSA branches on time to make resupply and other decisions. They may be sent by post, electronically (for HCMIS FE sites), courier or hand-carried. It is important that it should be received as quickly as possible after completion. If a facility has a facsimile (fax) machine, the RRF should be faxed to PFSA and to the appropriate management unit, and then the original copies would be sent by post.

PFSA identified and proposed the following options of acquiring the data. All of these methods have their own advantages and limitations. Some of these options are designed solely to RRF data collection whereas; others are designed to leverage the already existing system to serve the health system. This section of the SOP addresses the definition of and the processes of each option.

Postal Service: The health facilities will prepare their pharmaceutical logistics report and requisition according to a prearranged timeline and submit the report to the local post office. The local post office will deliver the report to respective hubs.
On the other hand, depending on the contract signed between PFSA and Ethiopian Postal Agency (EPA), the postal office may collect the pharmaceutical logistics report from the health facilities on a predetermined schedule and deliver the reports to the respective hubs

Health Management Information System (HMIS) Route:
Two copies of completed RRFs will be sent to respective management units (WoHO/ZHD/RHB) along with other HMIS Reports. WoHOs/ZHDs/RHBs will keep one copy and sends the original to respective PFSA branch.

Fax: This option is recommended for facilities having a fax machine. Data Processors: Trained professionals are assigned to collect facility RRFs and provide onsite technical assistance on RRF completion and data quality.

Telephone: This method of pharmaceutical logistics data acquisition is a means of getting pharmaceutical logistics report from health facilities through the telephone. Other Delivery Means: The other delivery means is a way by which health facilities deliver their pharmaceutical logistics report and requisition hand-carried to the nearby hub for resupply decision .Each PFSA hub works closely with the ZHDs and RHBs of their respective catchment area to map the data acquisition of all sites served by the branches and it is communicated to the health facilities by the RHBs/ ZHDs. The methods used in each site are documented by the branch and it is periodically reviewed based on the situation of the health facilities. In addition to this, the performance of each health facility is monitored and evaluated.

JOB AID: Completing the Report and Requisition Form
Task: Completing the Report and Requisition Form
Completed by: Health Centre or Hospital Store Manager (verified by the Pharmacy

Manager and Approved by Head of the Health Centre or Hospital.

Purpose: To report on pharmaceuticals used and stocks available**.** To order pharmaceuticals

When to perform: RRF should be completed at the end of the month and send to PFSA until the 10th day of the month following the end of the reporting period

Materials needed: Blank *Report and Requisition Form,* the *Report and Requisition Form* from the previous reporting period*, Stock Record Cards/Bin Cards* for all pharmaceuticals*,* pen, and calculator

Note: Each page of the form has three (3) copies. Press hard with your pen so that everything you write appears on the bottom copy. Much of the information needed to complete the *RRF* is obtained from the Bin Card/*Stock Record Card*; be sure that the Bin Card/*Stock Record Cards* are up-to-date and that they include the most recent physical count

JOB AID: Completing the Report and Requisition Form
Task: Completing the Report and Requisition Form
Completed by: Health Centre or Hospital Store Manager (verified by the Pharmacy Manager and Approved by Head of the Health Centre or Hospital.
Purpose: To report on pharmaceuticals used and stocks available. To order pharmaceuticals

When to perform: RRF should be completed at the end of the month and send to PFSA until the **10th day of the month** following the end of the reporting period
Materials needed: Blank ***Report and Requisition Form,*** the ***Report and Requisition Form*** from the previous reporting period***, Stock Record Cards/Bin Cards*** for all pharmaceuticals**,** pen, calculator

Note: Each page of the form has **three (3) copies.** Press hard with your pen so that everything you write appears on the bottom copy. Much of the information needed to complete the ***RRF*** is obtained from the**.** Bin Card/***Stock Record Card***; be sure that the Bin Card/*Stock Record Cards* are up-to-date and that they include the most recent physical count

Step	**Action**	**Notes**
To Report and Order Pharmaceuticals		
1.	**Health Facility/Woreda/Region:**	Example: [region : Oromia], [Woreda :

	Write the location of the health facility (Health Centre or Hospital).	Lume], [health facility : Modjo Health Center]
2.	**Current Reporting Period: From: … To:** Write the first and last day of the reporting period (In Ethiopian Calendar).	Example: Ginbot 1, 2005 – Sene 30, 2005.
3.	**Serial Number (S/No.) (Pre-printed):** The serial number of the product on the form.	Example: 1, 2, 3,
4.	**Product (pre-printed):** The name and description (Strength, Dosage Form and Minimum Unit of Issue) of each pharmaceutical is pre-printed on the form. If note pre printed write those descriptions on the blank form	If reporting on and ordering items that are not listed, use a blank line at the end of the form. Write the product name and description.

Step	Action	Notes
5.	**Unit of Issue (pre-printed):** The unit of issue for each pharmaceutical is pre-printed on the form. If note preprinted write those descriptions on the blank form	If reporting on and ordering items that are not listed, write the unit of issue, if it is known, next to the item description written in Step 5.
6.	**Beginning Balance (Column A):** Write the balance of the item at the beginning of the reporting period. The Beginning Balance for the current	This information can be found on the *Report and Requisition Form* from the previous reporting period. If this is the first *RRF*, •This information can be found on the

	report is equal to the Ending Balance of the previous report.	Bin Card/*Stock Record Card*. •Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card Number of Units in standard pack
7.	**Quantity Received (Column B):** Write the quantity of the item received during this reporting period.	This information is the sum of the quantities found in the —Received‖ column of the Bin Card/*Stock Record Card* for the dates during the current reporting period. •Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit) Number of Units in the pack X Quantity on the Bin Card Number of Units in standard pack

Step	Action	Notes
8.	**Losses/Adjustments (Column C):** Write the total quantity of the item lost or adjusted during this reporting period.	This information is the sum of the quantitiesfound—Losses/Adjustments‖ column of the Bin Card/*Stock Record Card* for thedates during the current reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card Number of Units in standard pack Write any remarks related to the loss/adjustment in the Remarks section; see Step 17

Step	Action	Notes
9.	**Ending Balance in DUs (Column D):** Write the ending balance or Stock On Hand quantity of the item at the end of the reporting period in the dispensing units.	The Ending Balance (D) is the ending balance from the latest IFRR reports from DUs The Ending Balance should also equal the results of the physical count of the item at the dispensing units or the bin card at the end of DU reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit);Number of Units in the pack X Quantity on the Bin Card Number of Units in standard pack
10.	**Ending Balance Store (Column E):** Write the ending balance or Stock On Hand quantity of the item at the end of the reporting period in the store room.	The Ending Balance (E) is the balance on the Bin Card on the last date of the reporting period. The Ending Balance should also equal the results of the physical count of the item. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit); Number of Units in the pack X Quantity on the Bin Card Number of Units in standard pack
11	**Calculated Consumption (Column F):** Calculate the total amount of pharmaceuticals Issued out of the Pharmacy Store using the beginning balance in the store, Quantity Received, Loss/Adjustment and Ending balance in the store.	Calculated Consumption (Column F) = Beginning Balance (A) + Qty Received (B) + Loss/Adjustment (C) - Ending Balance at DUs (D)- Ending Balance at Store (E) This is also the same as the sum of issues in the bin card for the reporting period
12.	**Days Out of Stock (Column G) :** The total number of day a product was out	Count the number of days of Stock Out from the Bin Card or IFRR

	of stock at facility	

Step	Action	Notes
13.	**Maximum Stock Quantity (Column H):** Calculate and write the maximum stock quantity •For program RRF using the formula H = 120 F/ (60 – G). •For RDF RRF using the formula H= F*2*RP*30/ ((RP*30)-DOS) •For malaria pharmaceuticals using the formula H = (120 F/ (60 – G))*LSI	For program pharmaceuticals the maximum quantity is calculated after multiplying CC adjusted for DOS by 2 (4 MOS). For RDF pharmaceuticals the maximum quantity is calculated based on adjusted CC for DOS for consumption within the review period (Maximum for RDF is adjusted CC in the review period). LSI- Look ahead seasonality indices or adjustments factors are used due to seasonality and demand variability, using the previous calculated consumption to resupply would lead to stock out, under or overstock. Each resupply period will have its own index to adjust historical consumption. The order quantity considers the specific reporting period indices. The letters in the formula refer to the columns in the *RRF*.
14.	**Quantity Ordered (Column I):** Calculate and write the quantity needed to reach max by subtracting the ending balance in the store from the maximum stock quantity using the formula I= H- D-E	I (Quantity Ordered) = H (Maximum Stock Quantity) – D (Ending Balance in DU) - E (Ending Balance in store) The formula is also found on the *RRF*. The letters in the formula refer to the columns in the *RRF*. If the calculated quantity is a zero or a negative number then no additional stock is required. Write 0 in the —Quantity Orderedǁ column.

15.	**Products with shelf life < 6 months:** Write the serial number in the list, quantity and expiry dates of pharmaceuticals with shelf life less than or equal to 6 months.	Note: You will find the definition for —shelf life‖ in chapter VIII.
16.	**Remarks:** Write any remarks related to the product or any explanation related to losses and adjustments that you have reported. (Write the serial number in the list, quantity and reason for loss and/or adjustment**)**	Remarks on losses and adjustments should be found on the *Bin Card*.
17.	**Completed by/ Name/Signature/Date:** The person (Store Manager) completing the Report and Requisition parts should write and sign his or her name, and write the date on which he or she has completed these sections of the form.	
18.	**Verified by/ Name/Signature/Date:** The Head of the Pharmacy Section should write and sign his or her name, and write the date on which he or she has reviewed the form.	
19.	**Approved by/Name/Signature/Date:** The Head of the facility should write and sign his or her name, and write the date on which he or she has reviewed the form.	

Task is complete when:
The Health Centre or Hospital has completed the information identifying the facility andthe reporting period, has completed columns A through I, and signed the form. The Health Centre or Hospital has sent 1 copy to PFSA and 1 copy to the appropriate administrative body (RHB/ZHD or WHO), and keeping one copy

VEN and ABC Analysis of pharmaceuticals

a. VEN Analysis

VEN analysis is a system of setting priorities, in which pharmaceuticals are classified
according to their health impact and decisiveness to the service: vital, essential, and less (none)-essential. If funds are limited, **VEN** analysis is a method to prioritize for pharmaceuticals purchase .This analysis is used to identify high-priority pharmaceuticals for procurement and low priority pharmaceuticals that the DTC should analyze carefully for deletion from the Pharmaceutical List. VEN stands for:

I. V = Vital:
Potentially lifesaving, the best tool to curl the morbidity of the area: in the absence of this pharmaceutical, the patient may die, or may be hurt. Crucial to provide the basic health services; without which it is impossible to deliver the basic services in a specific area It is mandatory 24 hours of a day, 7 days of a week, and or 12 months of a year Known, easily manageable by the health care team and is the most fit with the clinical setup of the facility than the other alternatives.

II. E = Essential:

Effective against less severe but significant illness, in the absence of these items, it may be difficult to deliver the service; somehow one may deliver the service by using alternatives Are manageable by the medical staff and fits in a better way to the clinical setup of the facility than the other alternatives

III. **N = none essential/less essential:**

Effective for minor illnesses But may have high cost compared to its therapeutic advantage The service will not be stopped due to the absence of N items Cannot be managed by the clinical setup and medical staffs even if it is the best pharmaceutical

b. ABC Analysis of Pharmaceuticals

Vilfredo Pareto, (born July 15, 1848, Paris, France died August 19, 1923, Geneva, Switzerland), Italian economist and sociologist who is known for his theory on mass and elite interaction as well as for his application of mathematics to economic analysis. V. Pareto created a mathematical formula to describe the unequal distribution of wealth in his country, observing that twenty percent of the people owned eighty percent of the

wealth .In pharmaceutical analysis; ABC has been used to identify the vital few from the trivial many. ABC needs reconciliation with VEN of the health facility. If once reconciled with VEN of the facility and proved to be consumed according to the standard treatment guidelines, then the vital few 20% in pharmaceutical order will be the real 80% consumption in value as follows.

Category	Percentage of Budget	Percentage of Pharmaceuticals	Orders
A	Pharmaceuticals	70-80%	10-20%
B	Pharmaceuticals	15-20%	10-20%
C	Pharmaceuticals	5-10%	60-80%

"A" pharmaceuticals:

High percentage of funds spent on large-volume or high-cost items. Greatest potential for savings. Greatest potential for identifying expensive pharmaceuticals that are overused

"B" pharmaceuticals:
Moderate cost and moderate number of items; important items

"C" pharmaceuticals:
Small amount of funds spent on the majority of the inventory

Applications of ABC analysis:
Measures the degree to which actual consumption reflects public health needs and morbidity when reconciled with VEN and hence improve rational use of pharmaceuticals. Provides information for choosing the most cost-effective alternatives and finding opportunities for therapeutic substitution.

JOB AID: ABC Analysis

Task: Conduct ABC Analysis

Completed by: DTC Committee

Purpose: To sort pharmaceuticals as A,B and C

When To Perform: Annual

Materials Needed: Report and Requisition Form, Bin cards, Stock Record card, Model

19, Model 22

Step	Action	Notes
1.	**List of pharmaceuticals (A)**: List all pharmaceuticals used by the facility.	Use the standard pharmaceutical list (formulary) of the facility
2.	**Quantity consumed (B)**: Write the quantity of each pharmaceutical consumed/purchased under the period of analysis.	
3.	**Unit Price (C)** :Enter the unit price of each of the product purchased	Take the latest price information for each pharmaceutical.
4.	**Total value (D)**: Multiply the unit cost with quantity consumed. D= B*C	
5.	**Grand Total Value (∑Dis)**: Add the total value of all items at the bottom of the column.	
6.	**Percentage value represented by each item (E)**: Divide the value of each item by the grand total value. E=Di/∑Dis, i=1, 2, 3	

Step	Action	Notes
7.	**Rearrange the list**: Rank the items in descending order by percentage value (E).	Sort out again in descending manner so that the largest amount being on the top and decreasing down.
8.	**Cumulative percentage value of the total value (F)**: Calculate the cumulative percentage value of the total value for each item; beginning with the first (top) item, add its percentage to that of the item below it in the list.	
9.	**Choose cut-off points for A, B and C**	

	pharmaceuticals: A, those few items accounting for 75-80% of total value **B**, those items which take up the next 15-20% **C**, the bulk of items which only account for the remaining 5-10% of value.	
10.	**Crosschecking of pharmaceutical order system with cost percentage system:** Percentage of pharmaceuticals order can be taken as 10-20%, 10-20%, 60-80% as a cut point as shown below. **Category Percentage of Budget Percentage of Pharmaceuticals Orders** A Pharmaceuticals 70-80% 10-20% B Pharmaceuticals 15-20% 10-20% C Pharmaceuticals 5-10% 60-80%	
11.	**Validation:** •Validate the value of A B C by reconciling with VEN • Subject the result to DTC for discussion to check whether pharmaceuticals in this class reflects public health problem of the facility	

JOB AID: Completing the Cost Analysis worksheet for purchased drugs RRF

Task: Completing the Cost Analysis worksheet for RRF

Completed by: Health Centre or Hospital Pharmacy Head/Manager

Health Centre or Hospital Store Manager (verified by the Pharmacy Manager)

Purpose: To prioritize purchased products based on budget availability To adjust requested quantity of products on the RRF based on cost analysis

When to perform: After the store manager completes the RRF up _ the quantity reach to Max‘ column and before the **10th day of the month** following the end of the two months ‘reporting period

Materials needed: Partially completed (up to _Quantity needed to reach Max‘ column) *Report and Requisition Form (RRF),* Blank cost analysis worksheet, pen, calculator, updated product-price list and VEN classification of the facility specific pharmaceuticals list.

Note: The Store Manager fills the RRF up the column _Quantity required to reach Max‘. The Pharmacy Manager performs cost analysis based on VEN analysis procedure, and then selects prioritized products with their required quantities. The prioritized products with their adjusted/required quantities are then entered into the last column in the RRF (Quantity Ordered), approves by signing in the appropriate place at the bottom of the RRF.

Step	Action	Notes
To complete the Cost Analysis worksheet for RRF		
	Health Facility: Write the name of the health facility (Health Centre or Hospital).	Example: [Modjo Health Center]

	Reporting Period: From: … To: Write the first and last day of the reporting period (In Ethiopian Calendar).	Example: Ginbot 1, 2005 – Sene 30, 2005.
	Serial Number (S/No.)	Example: 1, 2, 3,
	Product: Write the name and description (Strength, Dosage Form and Minimum Unit of Issue) of each pharmaceutical	
	Unit of Issue (pre-printed):	

Step	**Action**	**Notes**
.	**VEN Group:** Group products according to their importance to help facilities in prioritizing pharmaceuticals in budget limited settings (see the job aid of VEN analysis)	Note: Facility specific VEN categories are developed by the facility Drug and Therapeutic Committee (DTC) as part of facility specific formulary and drug list development.
Original Request		
	Quantity Needed to reach Max: Copy the quantity needed to reach Max from the partially completed RRF by the Store Manager into the cost analysis	

	worksheet.	
.	**Unit Price:** Write the latest unit price into the cost analysis worksheet.	The latest unit price can be obtained from previous invoices or updated PFSA price list
	Total Price: Multiply the total quantity needed to reach Max by the unit price.	Note: Column A x Column B
Adjustment		

.	**Quantity Ordered:** Enter the quantity of products determined after the prioritization and cost analysis	Note: Pharmaceuticals in V groups should be selected first, then E and finally N. But, select logically (eg. by proportion) if it is within the same group.
.	**Total Price:** Multiply the quantity ordered by the unit price.	Note: Column D x Column E
Completing the Quantity Ordered column of the RRF		
	Copy the quantity ordered from the cost analysis worksheet to the ‗Quantity Ordered' column on the RRF	
.	Place your name, signature, and stamp in the appropriate place at the	

	bottom of the RRF.	

Task is complete when:

The Health Centre or Hospital Pharmacy Manager has completed the information on columns ‗A' through ‗F' in the cost analysis worksheet, copied the Quantity Ordered into the RRF, and completed the signatory part in the RRF.

Self-Check -3	Written Test 2

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

CHOOSE THE BEST ANSWER

1. Health center use
   A. Bin card
   B. Stock card
   C. IFRR
   D. RRF
   E. All

2. When to perform RRF
   A. monthly
   B. every week

D. 2week

C. 2month

3. Purpose of RRF is
   A. report and order
   B. received and issue
   C. transfer
   D. browed

Note: **Satisfactory rating –3points** **Unsatisfactory - below 3 points**

Answer Sheet

1._____
2._____
3._____

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-4	*Assessing Stock assessment*

4.1 Assessing Stock Status

you should assess your stock status at any time you think that your current stock on hand will not last until the end of the current review period. This may occur if there is a loss of supplies due to damage, expiry, or theft, or if there is an unexpected increase in consumption.

A. Determining Months of Stock

To determine your months of stock, do the following calculation: At the Health Post: Stock on Hand=Months of Average Month Consumption/Stock on Hand If Months of Stock on Hand is less that 0.25, an emergency order is needed. But, it is the responsibility of the pharmacy store manager to do the calculation and decide if an emergency order is needed or not. HEWs should report the SOH if she feels that her current stock on hand will not last until the end of the current review period. Example:

Stock on Hand = 8

Calculated Consumption in the last reporting period= 40

$$\frac{8}{40} = 0.2$$

I have 0.2 Months of Stock. 0.2 Months of Stock is less than the emergency order point of 0.25 Months of Stock (1 week of stock). An emergency order is needed. Follow the procedure below.

To determine your months of stock for malaria products, do the following calculation:

Stock on Hand = Months of stock on hand Period

Average Consumption*LSI	monthly for
current	Reporting

On May 26, Stock on hand of Artemether + Lumifantrine is 40 and average calculated consumption of March-April from RRF is 48. And LSI for May-June is 1.7. MOS= SOH/(AMC*LSI): 40/(48*1.7)=0.50. I have 0.48 months of stock and emergency order is needed

Information Sheet-5	Placing emergency orders

5.1 Placing Emergency Orders

I. A maximum/minimum inventory control system

Is designed so that facilities always have enough stock to serve their clients and to prevent emergency orders. However, every system must have a procedure for placing emergency orders if they are ever needed. An emergency order would be needed to avoid reaching a stock out before the end of the review period.

Note: Never let your stock level reach —0‖ (stock out). Take action before a stock out occurs At the Health Centers and Hospitals an emergency order is needed if the stock level falls below 2 weeks of stock (0.5 months of stock) before the end of the review period.

At the Health Posts an emergency order is needed if the stock level falls below1 week of stock (0.25 months of stock) before the end of the review period.

Note: When making an emergency order, only report on the product(s) that require the emergency order. Do not report on all products managed by the health facility

JOB AID: Completing the Health Post Monthly Report and Re-supply Form for an Emergency Order

Task: Placing an Emergency Order (Health Post to Health Centre) **Completed by:** Health Extension Worker **Purpose:** To place an emergency order for any product which goes equal to or below 1 week (0.25 months) of stock? To avoid a stock out of a pharmaceuticals. **When to perform:** As soon as the Stock on Hand for any product goes equal to or below 1 week (0.25 months) of stock

Materials needed: Blank *Health Post Monthly Report and Re-supply Form*, *Bin Card(s),* calculator, pen **Note:** Same as HPMRR Job Aid
For any product which go equal to or below 1 week (0.25 months) of stock and that require an emergency order, follow the steps below:

Step	Action	Notes
1.	**Name of the Health Post:** Write the name of the Health Post for which the report is being completed.	
2.	**Supplying Health Centre**: Write the name of the Health Centre from which you will receive your products.	The Supplying Health Centre is assigned by MOH (Woreda Health Office).
3.	**Reporting Period, From: … To:** Write the starting month, day and year and the ending month, day and year that covers the reporting period.	The Reporting Period should be from the 1st day of the month through to the last day of the month. Example: Jan. 1, 2010 – Jan. 31, 2010

Step	Action	Notes
4.	**Maximum Level (pre-printed):** The Maximum Stock Level for the Health Post.	The maximum stock level for the Health Post is 2 months of stock.
5.	**Serial Number (Ser. No.) (Preprinted):** The serial number of the product on the form.	Example: 1, 2, 3,
6.	**Product Name (pre-printed):** Thename and description of pharmaceuticals. If not write those descriptions on the blank form.	If reporting on products that are notlisted,write the Product Name and description on a blank row.
7.	**Unit (pre-printed):** The unit for pharmaceuticals. If not write those descriptions on the blank form.	If reporting on items that are not listed, write the unit for the item next to the Product Name and description on a blank row.
8.	**Beginning Balance (A):** Write in the quantity of stock you had available at the beginning of this reporting period.	This information is on the Bin Card, it is the quantity of product you started with. The Beginning Balance should be the same as the Ending Balance from the

		previous month.
9.	**Quantity Received (B):** Write the quantity of the item received during this reporting period.	This information is the sum of the quantities found in the ―Received‖ column of the *Bin Record Card* for the dates during the current reporting period.
10.	**Loss/Adjustment (C):** Write the total quantity of the item lost or adjusted during this reporting period.	This information is the sum of the quantities found in the ―Losses/Adjustments‖ column of the Bin Card for the dates during the current reporting period. Write any remarks related to the loss/adjustment in the Remarks section;.
11.	**Ending Balance (D):** Write the quantity of the product on hand when about to place emergency order.	Conduct a physical count to determine the Stock on Hand. Stock on Hand can also be found on the *Bin Card*, if the *Bin Card* is up-to-date.
12.	**Write the words "Emergency Order" at the top of the Report**	

Step	Action	Notes
13.	**Remarks:** Write the reason for the emergency.	Example: Loss of 25 cycles. Damage of 50 pieces.
14.	**Completed by Health Centre section**: Leave all columns in this section blank. The store manager at the supplying Health Centre will complete these columns for you.	
15.	**Prepared by/Signature/Date:** Write your name, sign the report and write the date on which the report was completed.	
16.	**Take all three copies of the completed**	

	report to the Health Centre	

The task is complete when:
The Health Extension Worker has completed the information identifying the facility and the reporting period, completed the required information for each product that needs an emergency order, and signed and dated the report. The Health Extension Worker has taken the report to the Health Centre for emergency re supply.

JOB AID: Placing an Emergency Order at the Health Centre or Hospital

Task: Placing an Emergency Order (Health Centre or Hospital to PFSA) **Completed by:** Health Facility In-Charge and store Manager **Purpose:** To order supplies when stock levels are equal to or below the 0.5 Months of Stock emergency order point. To avoid a stock out of a pharmaceutical. **When to perform:** As soon as the Stock on Hand for any product goes equal to or below 2 weeks (0.5 months) of stock **Materials needed:** Blank Report and Requisition Form, *Bin Card(s),* calculator, pen **Note:** Complete the requisition for the product(s) that are equal to or below 2 weeks (0.5 months) of stock and that require an emergency order.
For any products which go below 2 weeks (0.5 months) of stock, follow the steps below:

Step	**Action**	**Notes**
1.	**Health Facility/Woreda/Region**: Write the location of the health facility (Health Centre or Hospital).	Example: [region], [Woreda], [health facility]
2.	**Reporting Period: From: … To**: Write the first and last day of the reporting period.	Example: Megabit 1, 2005 to Miazia 30, 2005
3.	**Write "EMERGENCY ORDER" at the top of the form.**	
4.	**Serial Number (S/No.) (Pre-printed):** The serial number of the product on	Example: 1, 2, 3 …

	the form.	
5.	**Product (pre-printed):** The name and description pharmaceuticals are preprinted on the form.	If reporting on and ordering items that are not listed, use a blank line at the end of the form. Write the product name and description.
6.	**Unit of Issue (pre-printed):** The unit of issue for pharmaceuticals is preprinted on the form.	If reporting on and ordering items that are not listed, write the unit of issue, if it is known, next to the item description written in Step 5.
7.	**Beginning Balance (Column A):** Write the balance of the item at the beginning of the reporting period. The Beginning Balance for the current report is equal to the Ending Balance of the previous report.	This information can be found on the Report and Requisition Form from the previous reporting period. If this is the first *RRF*, This information can be found on the Bin Card/*Stock Record Card*. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card Number of Units in default pack
8.	**Quantity Received (Column B):** Write the quantity of the item received during this reporting period.	This information is the sum of the quantities found in the ―Received‖ column of the Bin card/Stock Record Card for the dates during the current reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card Number of Units in default pack
9.	**Losses/Adjustments (Column C):** Write the total quantity of the item lost or adjusted during this reporting period.	This information is the sum of the quantities found in the ―Losses/Adjustments‖ column of the Bin card/ and Stock Record Card for the

		dates during the current reporting period.Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card Number of Units in default pack Write any remarks related to the loss/adjustment in the Remarks section; see Step 17.
10.	**Ending Balance in DUs (Column D):** Write the ending balance or Stock On Hand quantity of the item at the end of the reporting period in the dispensing units.	The Ending Balance (D) is the ending balance from the latest IFRR reports from DUs The Ending Balance should also equal the results of the physical count of the item at the dispensing units. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit); Number of Units in the pack X Quantity on the Bin Card Number of Units in standard pack
11.	**Ending Balance in the Store (Column E):** For each item, write the quantity of the item at the end of the reporting period.	This information should be obtained from a physical count of the item. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card Number of Units in default pack
12.	**Calculated Consumption (Column F):** Calculate the total amount of	Calculated Consumption (Column F) = Beginning Balance in the store(A) + Qty Received (B) + Loss/Adjustment (C) -

	Commodities Issued out of the Pharmacy Store using the beginning balance, Quantity Received, Loss/Adjustment and Ending balance in the store**.**	Ending Balance in DU(D)- Ending Balancein store (E)

13.	**Days Out of Stock (Column G):** The total number of days a product was out of stock.	Count the number of days of Stock Out (DOS).
14.	**Maximum Stock Quantity (Column H):** Calculate and write the maximum stock quantity For program RRF using the formula H = 120 F/ (60 – G). For RDF RRF using the formula H = F*2*RP*30/ ((RP*30)-DOS)	For program pharmaceuticals the maximum quantity is calculated after multiplying CC adjusted for DOS by 2 (4 MOS). For RDF pharmaceuticals the maximum quantity is calculated based on adjusted CC for DOS for consumption within the review period (Maximum for RDF is adjusted CC in the review period). The letters in the formula refer to the columns in the *RRF*

15.	**Quantity Ordered (Column I):** Calculate and write the quantity needed to reach max by subtracting the ending balance in the store from the maximum stock quantity using the formula I= H D-E	I (Quantity Ordered) = H (Maximum Stock Quantity) – D (Ending Balance in DU) – E (Ending Balance in store) The formula is also found on the *RRF*. The letters in the formula refer to the columns in the *RRF*. If the calculated quantity is a zero or a negative number then no additional stock is required. Write 0 in the —Quantity Ordered‖ column.
16.	**Remarks:** Write reason for —EMERGENCY ORDER‖.	Be sure to include any comments related to losses that are noted in column D. Examples: Paracetamol: - 100 damaged
17.	**Completed by/ Name/Signature/Date:**	

	The person (Store Manager) completing the Report and Requisition parts should write and sign his or her name, and write the date on which he or she has completed these sections of the form.	
18.	**Verified By/ Name/Signature/Date:** The Head of the Pharmacy Section should write and sign his or her name, and write the date on which he or she has reviewed the form.	
19.	**Approved By/Name/Signature/Date:** The Head of the facility should write and sign his or her name, and write the date on which he or she has reviewed the form.	
20.	Submit the Emergency Order to PFSA as soon as possible and by the fastest means possible.	Take the emergency order to PFSA in person, fax the form, or telephone.

The task is complete when:
The name of the unit receiving the products, the date, and the pharmaceuticals information has been completed. EMERGENCY ORDER has been written on the top of the form. The re-supply quantity has been calculated and written. The form has been signed by the person requesting the products and by the person approving the emergency order.

LG38.	LO5. Issuing and/or distributing pharmaceuticals

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Pharmaceutical distribution cycle
- Pharmaceutical distribution system design
- Issuing pharmaceuticals with in health centers and hospitals
- Issuing pharmaceuticals to health posts

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- complete the Internal Facility Report and Re supply Form (IFRR) to issue pharmaceuticals within a health center or hospital
- calculate Re-supply quantities for health posts
- Complete the Health Post Monthly Report and Re-supply Form (HPMRR) for issuing pharmaceuticals to health posts is completed.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet-1	Pharmaceutical distribution cycle

1.1 Pharmaceutical distribution cycle

1.2 Drug Distribution: Is a continuous process of receiving drugs form the suppliers and moving them safely/securely, expeditiously to many points in the health care system at which the drugs will be dispensed to patients

A well-managed distribution system should:

a) Maintain a constant supply of drugs
b) Keep drugs in good condition
c) Minimize drug losses due to spoilage and expiry
d) Rationalize drug storage points
e) Use available transport as efficiency as possible
f) Reduce theft and fraud
g) Provide information for forecasting drug needs

✓ The distribution cycle

Steps of distribution cycle:

A. Port clearing

Involves identifying shipments as soon as they arrive in port, processing all importation documents, completing any customs requirements, storing drugs properly until they leave the port, surveying the shipment for losses and signs of damage, and collecting the drugs as soon as they have been cleared. It may be managed directly or through a separate contract with port clearing agent

B. Receipt and inspection

When items first delivered from the port or directly from a supplier to the store room; they must be kept separate from the other stock until the store staff has performed a complete formal inspection of the supplies. Inspectors should check for damaged and missing items and for compliance with the contract conditions concerning drug type, quantity, presentation, packaging, labeling, and any special requirements

C. Inventory control

It is the process of assuring that the right volume and movement are secured in order to ensure that drugs have reached to the final consumer correctly

D. Storage

Proper location, construction, organization, and maintenance of storage facilities help maintain drug quality, minimize theft, and maintain regular supply to health facilities

E. Requisition of supplies

The forms and procedures for requisition are a key part of the inventory control system. They may vary from country to country and form one level to another within the same country. The requisition system can be manual or computerized

F. Delivery

Drugs may be delivered by ware houses or collected by health facilities. Transportation methods must be carefully selected and schedule deliveries realistically and systematically

G. Dispensing to patients

The distribution process achieves its purpose when drugs reach hospital wards, outpatient clinics, health centers, or community health workers and are appropriately prescribed and dispensed to patients

H. Consumption reporting

The closing link in the distribution cycle is the flow of information on consumption and stock balances back up the distribution system to the procurement office for use in quantifying procurement needs. The distribution cycle begins when drugs are dispatched by the manufacturer or supplier. It ends when drug consumption information is reported back to the procurement unit.

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is a drug distribution?
2. Write distributions cycle?

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1. _____
2. _____

Name: _____ Date: _____

Score = _____

Rating: _____

Information Sheet-2	Pharmaceutical distribution system design

2.1 Pharmaceutical distribution system design

2.2 Distribution system design

Designing distribution system requires systematic cost-effectiveness analysis and operational planning

Basic designing features include:

- Its degree of centralization
- The number of levels in the system
- The geographic or population coverage

In a typical central supply system, drug procurement and distribution are coordinated at the national level. Drugs received at the central medical stores(CMS) are distributed to lower-level warehouses . In a decentralized system, the districts or regions are responsible for receiving, storing and distributing drugs. In some cases, they may also be responsible for procurement

2.3 Push and pull systems

I. Pull system:

Each level of a system determines what types and quantities of drugs are needed and places orders with the supply source. It is sometimes known as requisition system

Conditions favoring a pull system

- ✓ Lower-level staff are competent in assessing needs and managing inventory
- ✓ Sufficient supplies are available at supply sources to meet all program needs
- ✓ A large range of products is being handled
- ✓ Field- staff are regularly supervised, and performance is monitored

II. Push system:

Supply sources at some level in the system determine what types and quantities of drugs will be delivered to lower levels. This is also known as an allocation or a ration system.

Conditions favoring a push system

- ✓ Lower levels staff are not competent in inventory control
- ✓ Demand greatly exceeds supply, making rationing necessary
- ✓ A limited number of products is being handled
- ✓ Disaster relief is needed, or the situation calls for short term supply through pre- packed kits

2.4. **Delivery schedules**

Good planning is needed to ensure that each facility receives supplies regularly and on time. Issues to be considered include. Storage capacity of, intermediate & health facility stores. Increased transport costs per unit supplied for deliveries to small, remote facilities. Efficient vehicle usage. Climatic factors

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

I. What is push system?

II. What is pull system?

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1. _____
2. _____

Name: _____ Date: _____

Score = _____

Rating: _____

Information Sheet-3	Issuing pharmaceuticals with in health centers and hospitals

3.1 Issuing pharmaceuticals with in health centers and hospitals

Issuing Pharmaceuticals within Health Centers and Hospitals In order to maintain the quality of the pharmaceuticals and to better manage the pharmaceuticals in a Health Centre or Hospital, most of the commodities should be stored in the Health Centre or Hospital pharmacy store. Pharmaceuticals should be issued to the service providers (nurses, clinicians, out-patient pharmacies etc.) referred in this document as dispensing units (D.U.s) at their work area (in the ward, in a clinic, in the dispensary) in small quantities once or more during the month.

Service providers at dispensing units will come to the Health Centre or Hospital pharmacy store between 2 and 4 times a month for re-supply. It is recommended that service providers hold enough pharmaceuticals at their work area to serve clients for two or four weeks. When issuing pharmaceuticals to a unit within a Health Centre or Hospital, the Internal Facility Report and Resupply Form (IFRR) is used to maintain a record of the products that are issued and received. The Internal Facility Report and Resupply Form (IFRR) should be kept in the respective Dispensing Units and completed when a service provider is scheduled to come for re-supply. Products are needed to be reported in agreed upon defaults units, which are pre-printed in the IFRRs. So, quantities in basic units from Bin Cards should be converted to default units using the following formula:
Conversion Formula = Quantity in Basic Unit Number of Units in each default pack
For TB Kits - Both the basic unit in bin cards and default units in IFRR will be in kit.
The following job aid provides instructions for completing the Internal Facility Report and Resupply Form (IFRR).

JOB AID: Completing the Internal Facility Report and Resupply Form (IFRR*)* for Issuing Pharmaceuticals within Health Centres and Hospitals
Task: Issuing Pharmaceuticals within a health facility

Completed by: The person from the Dispensing Unit reporting/receiving the pharmaceuticals (Completed by Unit section). The Health Centre or Hospital pharmacy manager (Pharmacist, Pharmacy Technician or other) (Completed by Store Section)

Purpose: To report on and issue pharmaceuticals within a health facility.

When to perform: According to the schedule established at the Health Centre/Hospital Pharmacy Store for re-supply to the dispensing units
Any time pharmaceuticals are needed by dispensing units within a health facility (emergency).

Materials needed: Blank *IFRR,* Pre-printed IFRR ,*Bin Card(s)* for pharmaceuticals being issued, calculator, pen

Note: It is recommended that products be issued to the dispensing units on a weekly, every two week or monthly

Step	Action	Notes
Steps 1 – 10 should be completed by the Dispensing Unit before going to the Pharmacy Store according to the agreed schedule.		
1.	**Name of Dispensing Unit:** Write the name of the Dispensing Unit	Example: MCH/Family Planning
2.	**Reporting Period From: -- To ---** Write the first and last date of the reporting period covered by this IFR.	From: Tikimt 1, 2007 to Tikimt 7, 2007 The reporting period should be the same as your scheduled re-supply interval (weekly, bi-weekly).
3.	**Maximum Level (ML):** Write in the	The Maximum Level is based on how often

	maximum level for the dispensing unit (2 X Reporting Interval) in weeks	you receive products from the pharmacy store. Examples: If you receive products from the pharmacy store every week, write (—1 week‖) X 2. If you receive products from the pharmacy store every two weeks, write (—2 weeks‖) X 2.

4.	**Serial Number (pre-printed):** The serial number of the product on the form.	Example: 1, 2, 3,
5.	**Item:** Write the name and description of each pharmaceuticals you are reporting on or use the preprinted IFRR if any	Amoxicillin 250 mg tablets
6.	**Beginning Balance (A):** Write in the quantity of stock you had available at the beginning of this reporting period.	This information is on the Bin Card; it is the quantity of product you started with.
7.	**Quantity Received (B):** Write the quantity of the item received during this reporting period.	This information is the sum of the quantities found in the —Received‖ column of the *Bin Card* for the dates during the current reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like

		TB kit): Quantity in Basic Unit (BU) Number of Units in default pack
8.	**Losses/Adjustments (C):** Write the total quantity of the item lost or adjusted during this reporting period.	This information is the sum of the quantities found in the —Losses/Adjustmentsǁ column of the *Bin Card* for the dates during the current reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Quantity in Basic Unit (BU) Number of Units in default pack Write any remarks related to the loss/adjustment in the Remarks section; Example: Positive adjustment for reconstituted TB kit products in resupply box

9.	**Ending Balance (D):** Write in the quantity of stock that you have on hand at the end of the reporting period.	Conduct a physical count to determine the Stock on Hand. Stock on Hand can also be found on the *Bin Card*, if the *Bin Card* is up-to-date. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like

		TB kit): Quantity in Basic Unit (BU) Number of Units in default pack
10.	**Remarks:** Write any remarks related to the product or any explanation related to losses and adjustments that you have reported. (Write the serial number in the list and reason for loss or adjustment**)**	Remarks on losses and adjustments should be found on the *Bin Card*.
11.	**Reported by/Signature/Date:** Write your name, sign and date the form.	
Steps 12 – 18 are completed by Pharmacy Store.		

12.	**Calculated Consumption (E):** Calculate the estimated quantity consumed: Beginning Balance plus Quantity Received plus/minus Loss/Adjustment minus Ending Balance. A + B +/– C - D= E If DU was stocked out in the reporting interval, the pharmacy store manager should use Calculated Consumption in the last reporting intervals to calculate the resupply quantity.	Example #1: Beginning Balance(A): 50 Quantity Received (B) : 35 Borrowed from other Dispensing unit (C): 10 Ending Balance (D): 12 A +B+/– C - D= E 50 +35 +10 - 12 = 83 Calculated Consumption = 83 Example #2: Beginning Balance(A):: 70 Quantity Received (B) : 30 Expired Product (C): -5 Ending Balance (D):: 25 A + B +/- C -D = E 70 +30 – 5 - 25 = 70 Calculated Consumption = 70

13.	**Maximum Quantity (F):** Multiply calculated consumption by 2. F = E X 2	To calculate the maximum quantity, multiply the calculated consumption by 2. Example: Calculated Consumption = 70 70 X 2 = 140 Maximum Quantity = 140
14.	**Quantity Needed to Reach Max. (G)**: Write in the quantity of the product that is needed to reach the maximum stock level. From the Maximum Quantity subtract the Stock on Hand (Ending Balance), . G=F- D	Example: Maximum Quantity = 140 Ending Balance = 12 140 – 12 = 128 Quantity Needed to Reach Max. = 88 If the Quantity Needed to Reach Max. is negative, write —0‖ (zero); no re-supply is needed.
15.	**Quantity Supplied (H):** Write in the quantity of products supplied to the unit.	If no products were needed, write —0‖ (zero) and do not re-supply that product.
16.	**Update the *Bin Card* and the *Stock* *Record Card* for the product you have issued.**	See the Job Aid *Recording Transactions in the Bin Card* and *Recording Transactions* *in the Stock Record Card*.

16.	**Update the *Bin Card* and the *Stock* *Record Card* for the product you have issued.**	See the Job Aid *Recording Transactions in the Bin Card* and *Recording Transactions* *in the Stock Record Card*.

17.	**Completed/Signature/Date:** The person issuing (completing the —Completed by Store‖ section)	The person issuing the product should also fill and sign Model 22.

	writes name and sign and date the form.	
18.	**Approved by/Signature/Date:** The person approving the issue writes his or her name and signs and dates the form	

The task is complete when:
The name of the Unit receiving the products, the date, and the commodity information has been completed on the IFRR The re-supply quantity has been calculated and written. The IFRR has been signed by the person reporting, issuing and approving the products. Other legal documents such as Model 22 has been filled and signed by the person issuing the product. The *Bin Cards* and *Stock Record Cards* for the products issued have been updated

Self-Check -3	Written Test 3

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the d/c b/n RRF and IFRR?
2. When to preform RRF and IFRR?

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1. _____
2. _____

Score = _____

Rating: _____

Name: _____

Date: _____

Information Sheet-4	Issuing pharmaceuticals to health posts

4.1 Issuing Pharmaceuticals to Health Posts

At the end of each month, the Health Extension Worker should bring the Health Post Monthly Report and Re-supply Form (HPMRR) to the Health Centre for re-supply. Using the information contained in the report, and using the “Completed by Health Post” part of the form, Health Centre staff determines the re-supply quantities and issue pharmaceuticals to the Health Post staff. All pharmaceuticals will be re-supplied to the Maximum Stock Level (2 Months of Stock) each month.

JOB AID: Completing the Health Centre Section of the Health Post Report and Re-supply Form (HPMRR) (when issuing from Health Centre to Health Post)

Task*:* Issuing Pharmaceuticals to Health Posts
Completed by: Health Post and The Health Centre (Pharmacist, Pharmacy Technician or other);

Purpose*:* To re-supply the Health Post with pharmaceuticals up to the MaximumStock Level.

When to perform*:* At the end of each month when the Health Extension Worker comes to the. Health Centre for its regular monthly re-supplyWhen the HEW comes to the Health Centre with an emergency order

Materials needed*:* Current Health Post Monthly Report and Re-supply Form (HPMRR) ,Health Post Monthly Report and Re-supply Form (HPMRR) from theprevious month, calculator, pen

Note*:* The Health Extension Worker should have already completed the Completed by Health Postǁ section and signed the report before arriving at the Health Centre. See the Job Aid Completing the Health Post Section of the Health Post Monthly Report and Re-supply Form (HPMRR).

Step	Action	Notes
1.	**Calculated Consumption this month** **(E):** Calculate the estimated quantity consumed by taking the Beginning Balance plus the Quantity received, plus or minus Loss/Adjustment and subtracting the Ending Balance. E = A +B+/- C – D	Example #1: Beginning Balance (A): 500 Quantity Received (B) : 300 Transfer in (C): 100 Ending Balance (D): 120 E = A + B +/– C - D 500 + 300 + 100 - 120 = 780 Calculated Consumption = 780 Example #2: Beginning Balance (A): 700 Quantity Received (B) : 400 Quantity Stolen (C): -50 Ending Balance (D): 250 D = A + B +/– C - D 700 +400 – 50 - 250 = 800 Calculated Consumption = 800
2.	**Calculated Consumption last month** **(F):** Write the calculated consumption (column E) from the previous month.	Refer to column E in the previous month‘s HPMRR to obtain the Calculated Consumption for the previous month.
3.	**Maximum Quantity (G):** Write the total of the current Calculated Consumption (E) plus the Calculated Consumption last month (F). G = E+ F	The Maximum Level for the Health Post is two months of stock. Adding two months‘ consumption gives two months of stock. Example: Current Calculated Consumption 800 Previous Calculated Consumption 850 800 + 850 = 1650 Maximum Quantity = 1650
4.	**Quantity Needed to Reach Max.**	Example:

	(H): Subtract the Ending Balance from the Maximum Quantity and write the number. H = G – D	Maximum Quantity = 1650 Ending Balance = 250 Quantity Needed to Reach Max. = 1650 – 250 = 1400 If the Quantity Needed to Reach Max. is a negative number, write —0‖; no re-supply is needed.
5.	**Quantity Supplied (I):** Write in the quantity of products supplied to the unit.	The Quantity Supplied should be the same as the Quantity Needed to Reach Max. If the Quantity Supplied is negative, write —0‖ (zero); no re-supply is needed.
6.	Update the *Bin Card* and the *Stock Record Card* for the product you have issued.	See the Job Aids *Recording Transactions in the Bin Card* and *Recording Transactions* *in the Stock Record Card*.
7.	**Completed by/Signature/Date:** The person issuing (completing the —Completed by Health Centre‖ section) writes his or her name and signs and dates the form.	The person issuing the product should also fill and sign Model 22.
8.	**Approved by/Signature/Date:** The person approving the issue writes his or her name and signs and dates the form.	

The task is complete when:
The re-supply quantity has been calculated and written for each product, and the products have been given to the Health Post worker. The *HPMRR* has been signed by the person issuing the products, the person approving the issue, and the person reporting the products. Other legal documents such as Model 22 has been filled and signed by the person issuing the product. The for the products issued have been updated.

Self-Check -3	Written Test 3

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. When to preform HPMRR?
2. Maximum stock and minimum stock for health post

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

Answer Sheet

3. _____
4. _____

Name: _____ Date: _____

Score = _____

Rating: _____

LG# 39.	LO6. Receiving Pharmaceuticals

Instruction

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics

- Receiving pharmaceuticals from suppliers
- Transaction formats during receiving
- Conducting visual inspection

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to**

- Describe the process for receiving pharmaceuticals at a hospital or health center
- List the documents that are involved in receiving pharmaceuticals
- describe the payment modalities for acquiring pharmaceuticals

Learning Instructions

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet-1	Receiving pharmaceuticals from suppliers

1. 1 Receiving pharmaceuticals from PFSA

PFSA delivers pharmaceuticals to Hospitals and Health Centers which have submitted a completed and approved RRF on time. Hospitals and Health Centers receive pharmaceuticals every other month. At the time of delivery, PFSA trucks will wait while products are counted and verified, to take note of any discrepancies, to obtain proof of delivery (Model 19), to collect signed and sealed PFSA Delivery for the pharmaceuticals shipment.

Pharmaceuticals are delivered with two copies of PFSA Delivery Invoices (Cash sales invoice (CSI), Credit sales invoice (CRSI) and Stock transfer voucher (STV)). But, the facility will use the RRF copy in the facility to check if they are receiving the quantity ordered.

JOB AID: Receiving Pharmaceuticals
Task: Receiving Pharmaceuticals.

Completed by: Hospital or Health Centre Pharmacy Store Manager

Purpose: To inspect and account for pharmaceuticals received**.** To ensure that the quantity received matches the quantity issued/delivered**.** To account for any other discrepancies between the documents and drugs received**.** To enter newly received pharmaceuticals into inventory

When to perform: Any time pharmaceuticals are received

Materials needed: Copy of RRF, PFSA Delivery/Distribution Invoice, ***Stock Record Cards*** and ***Bin Cards*** for all pharmaceuticals, pen, products and documents received

Note: The same procedures that are used for routine receipt of products should be used for receipt of emergency orders.

Step	Action	Notes
1.	**Locate the following documents that should accompany the order:** *PFSA Delivery/Distribution Invoice for direct delivery* Model 22 along with copy of Delivery/Distribution invoices from WoHOs for non-direct delivery health centres.	If applicable, an updated PFSA product price list may also be included with the delivery documents (for purchased pharmaceuticals).
2.	**Conduct a visual inspection of the order:** Verify that the cartons, boxes and contents are not damaged.	See the part in Visual Inspection in section IX.
3.	**Review the PFSA Delivery/Distribution Invoice*:*** Check that the quantities received match the quantities issued.	
4.	**Quantity Received:** Count the quantity of each usable pharmaceuticals received and write down the specific quantity received for each product in the appropriate row and column on the Model 19	If any of the products received are damaged and expired only write the quantity of usable product received. In every case where the quantity received is different from that issued in the invoice record the discrepancies in the formats for damaged and short received items in the delivery invoice. Write explanation for the discrepancies on the remark column of

		the invoice.
5.	**Supplies received by/ Signature/** **Date:** Write your name and sign and date both copies of the PFSA *delivery/distribution invoice.*	.
6.	Return one copy of the PFSA delivery/distribution invoice and one copy of Model 19 with the PFSA driver.	
7.	Retain and file at your facility the second copy of the PFSA *delivery/distribution invoice*.	
8.	Mark expiry dates clearly, with large, dark numbers, on each box or carton. Place and reorganize products on shelves by FEFO.	
9.	Enter and update all stock information on the *Stock Record Card* and the *Bin Card* for all pharmaceuticals received.	See Job Aids *Recording Transactions in the Stock Record Card* and *Recording Transactions in the Bin Card* found in Section IV.

The task is complete when:
A visual inspection of the products has been conducted. Quantities of each product have been counted. The usable PFSA invoice quantities verified. Damaged and short received items recorded with their respective remarks. The PFSA delivery/distribution invoice has been signed and sealed. A copy of the signed and sealed PFSA *delivery/distribution invoice* has been returned to the PFSA truck driver. One copy of the signed and sealed PFSA *delivery/distribution invoice* has been filed at your facility. Goods have been stored appropriately.

Stock Record Cards and *Bin Cards* have been updated with the receipts.

Information Sheet-2	Transaction formats during receiving

1.1 Distribution of formats involved during receiving

1. PFSA uses the copy of the *RRF* that it receives from the health facility to produce 4 copies of Delivery/Distribution Invoice Keeps 2 copies at PFSA : Original: Branch / Central Store. One Copy: Finance →Sends 2 copies to SDP with pharmaceuticals. One copy signed and sealed together with the completed receipt voucher (Model 19) by the receiver (SDP) and returned back to sender (PFSA) One Copy remains in the SDP
2. Hospital or Health Centre completes the 2 copies of the Delivery/Distribution Invoice and 3 copies of the facility receipt voucher (Model 19). →Keeps 1 copy of Delivery/Distribution Invoice and 1 copy of the facility receipt voucher (Model 19). →Sends 1 copy of Delivery/Distribution Invoice and 1 copy of the facility receipt voucher (Model 19) to PFSA with deliverer. →Sends 1 copy of the facility receipt voucher (Model 19) to Hospital or Health Centre Finance Department.

There are 3 versions of Delivery Invoices used for distributing pharmaceuticals from PFSA to SDPs based on the type of pharmaceuticals and payment modalities. Except for their difference in their name these formats are similar in all other aspects.

1. Cash Sales invoice (CSI): Used for items issued out on cash
2. Credit sales invoice (CRSI): Used for items issued out on credit bases.
3. Stock transfer voucher (STV): Used for program drugs.

Information Sheet-3	Conducting visual inspection

3.1 Conducting Visual Inspection

To protect the quality of pharmaceuticals, it is important to conduct visual inspections of the products. Visual inspection is the process of examining products and their packaging by eye to look for problems in product quality. A visual inspection should be completed each time products are handled: when receiving, issuing or dispensing supplies, or when conducting a physical count.
When conducting a visual inspection, be sure to check the following:

- ✓ **Package and product integrity:** check for damage to packaging (tears, perforations, water or oil) and products (unexpected odor, caking on bottles, change in color, broken bottles).

- ✓ **Defects:** incomplete supply, missing or illegible identification information

- ✓ **Labelling:** Make sure that products are labelled with the date of manufacture or expiration, lot number and manufacturer‘s name. For products coming in individual patient kit form like TB kit, check if the labelling includes Batch No and Expiry Date of each product with in the Kit

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the purpose of receiving pharmaceuticals ?
2. When conducting visual inspection?

Note: **Satisfactory rating -2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1. _____
2. _____

Name: _____ Date: _____

Score = _____

Rating: _____

LG# 40.	Lo7.Storing pharmaceuticals

Instruction

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics

- Inventory management
- Good storage practice
- Ware house management
- Transportation management
- De-junking

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to**

- Apply Guidelines for organizing storage facility
- Apply Guidelines for proper storage of pharmaceuticals
- Demonstrate arrangement of pharmaceuticals in storage.
- List out and demonstrate steps in de junking a storage facility.

Learning Instructions

Information Sheet-1	**Inventory management**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

1.1 Inventory management

I. **Inventory**: The total stocks kept on hand at any storage point to
   a. Protect against uncertainty
   b. Permit bulk purchasing
   c. Minimize waiting time
   d. Increase transportation efficiently and
   e. Buffer against seasonal fluctuations

II. **Inventory control:**
   ✓ The function of supply management that aims to provide sufficient stocks of drugs at the lowest costs possible.

III. **The Purpose of Inventory control system**
   ✓ To determine when stock should be ordered/issued.
   ✓ To determine how much stock should be ordered/ issued.
   ✓ To maintain an appropriate stock level of all products, avoiding shortage and overage.

IV. Inventory control helps to:

- ✓ Maintain appropriate stock
- ✓ Avoid over stocking
- ✓ Monitor shortage of drug
- ✓ Check the movement of stock
- ✓ Prevent expiry of drug before being used

V. **Inventory taking:** A periodic activity in which a physical count is made of the stock and compared with inventory control records.

VI. **Inventory Management**: is the scientific process by which an organization is supplied with the goods and services which needs to achieve its objectives at optimum cost.

Inventory Management is the heart of the drug supply system; In fact the non-specialists say that the Inventory Management is drug management. It is for drug supply sounds easy all that must be done is to order, receive, store, issue& then reorder a limited list of item.

VII Common methods of inventory management

- ✓ Visual: simple physical inspection visually
- ✓ Periodic: inspection by physical count periodically
- ✓ perpetual: ‘’every time inspection ‘’electronically

The primary purpose of inventory management:

- ✓ *To manage procurement and*
- ✓ *To manage stock movements*

Medical store management should assist the movement of supplies from source to user as cheaply and reliably as possible and without significant wastage or theft. The goals of medical stores management are to protect the store from *loss, damage, theft, wastage or to manage reliable movements* of supplies from source to user in the least expensive way.

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 What is the purpose of inventory control system ?

2 List methods of inventory management ?

Note: **Satisfactory rating -2 points** **Unsatisfactory - below 2 points**

Answer Sheet

II. _____

III. _____

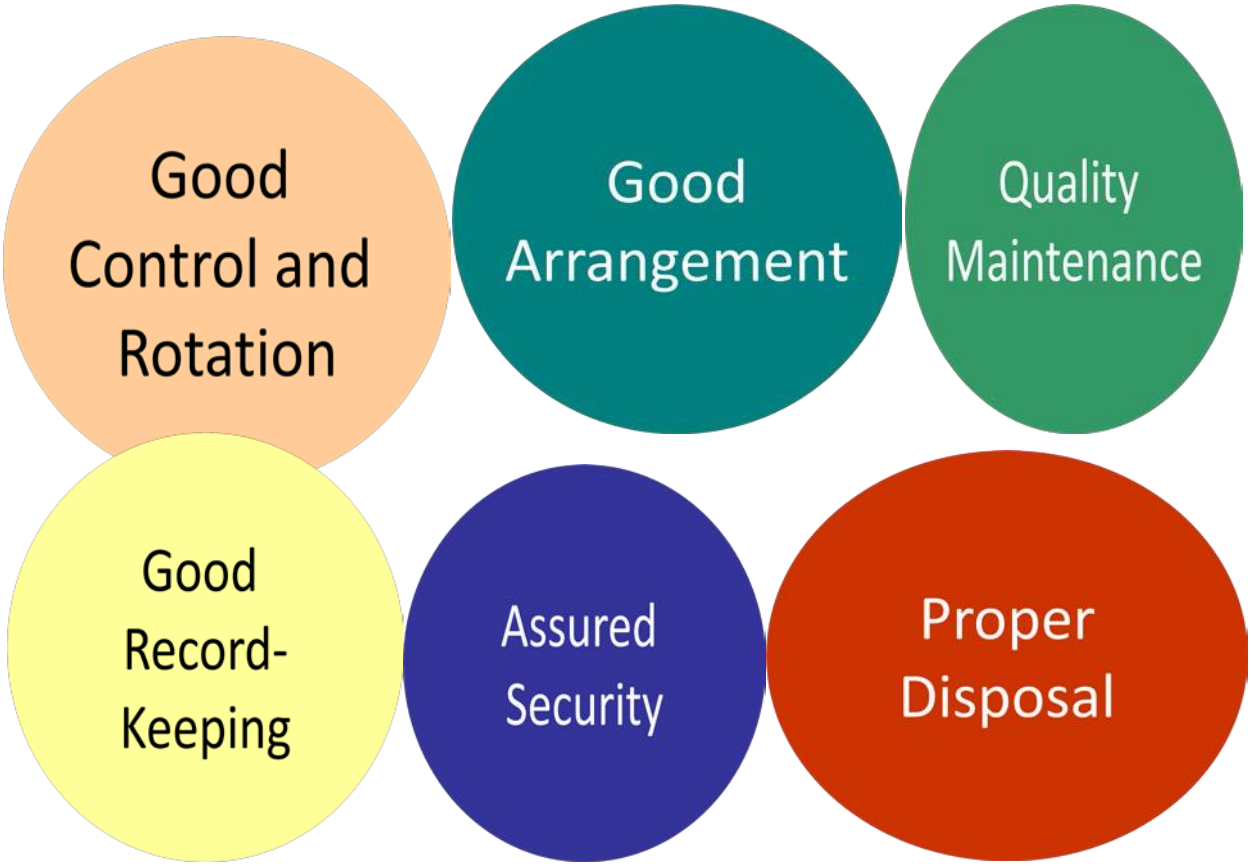
Name: _____ Date: _____

Score = _____

Rating: _____

Information Sheet-2	Good storage practice

2.1 Good storage practice



2.2 Storage and Product Shelf Life

Shelf life is the length of time a product may be stored without affecting the usability and safety of the item, if the product is stored under the prescribed conditions.

Pharmaceuticals have a shelf life which is specified by the manufacturer.

When pharmaceuticals reach the end of their shelf, it has expired and should not be distributed to patients. Some health products have short shelf lives. Because of these short shelf lives, it is important that proper storage procedures are followed, so that the shelf life is protected.
Always check the expiry dates before receiving, issuing or using, and do not use products that have expired. The expiry date of the products should be indicated directly on the product carton. Most products have the expiration date already labeled on them

2.3 Stock arrangement

Arrangements of pharmaceuticals

2.3.1 Free/Program

A. Drugs.

Free drugs will be grouped according to their program category, e.g. Tb, Malaria... Each program category will then further be arranged alphabetically and dosage form

B. Supplies and Diagnostics

Free supplies and diagnostics will be grouped according to their program category, e.g. Tb, Malaria.... Each program category will then further be arranged alphabetically

2.3.2 Purchased

A. Drugs.

Purchased drugs will be grouped following FMHACA‘s Pharmacotherapeutic categorization, e.g. CNS drugs, Antinfectives.. Each Pharmacotherapeutic category will then further be arranged alphabetically and dosage form

B. Supplies and Diagnostics

Purchased supplies and diagnostics will be grouped according to their type. Each group will then further be arranged alphabetically

1. Pharmacological category

For smaller store is effective. It is not an advantage in larger store

2. Clinical indication

It may be convenient in small store. One problem is that many drug have multiple indication

3. Alphabetical order

Alphabetical order (by generic name) is also attractive in peripheral stores that keep a small number of items. This method may not result in optimal use of available space

4. Level of use

Products used in only one level of facility are stocked together. It is obvious way of organizing drug kits& equipment kit in higher level store. It is not a practical method for organizing individual item. First, more storage space is required because many commonly used item appear at more than one level. Second, distribution on a FIFO or FEFO basis becomes more difficult to achieve .Third; one of the other methods of organization is needed within each level of use to avoid chaos.

5. Dosage form

Commonly used in smaller warehouses. Tablet& capsule are stored together, with separate areas for oral liquid, injection, cream, ointments, and topical liquids. The main advantages are that the forms are easy to recognize when receiving goods this system allows optimal use of space

6. Random Bin

Random bin is a unique storage space identified by code. The random bin storage method can combine the method described above. For example item are placed alphabetically with therapeutic classification

7. Commodity code

Commodity coding is an abstract organizational system. It offers maximum flexibility &can be used equally well in small & large store. This system is based on a unique article code combined with a unique location code.

2.4 Stock rotation

- ✓ It refers determine which items are to be issued first.
- ✓ It can be rotated in the following ways.
- ✓ FEFO(first expiry first out)

It refers to arranging stocks in a way that ensures drug which expire early are issued first.

- ✓ FIFO(first in first out) system
- ✓ Issuing drug that has stayed longest in the store.
- ✓ LIFO (last -in first out) system.

Issuing first that are recently arrived but having short expiry period /shelf life

- ✓ Following FEFO minimizes wastage from product expiry.

Always issue products that will expire first, ensuring they are not too close to or past their expiration date. The shelf life remaining must be sufficient for the product to be used before the expiry date. To facilitate FEFO, place products that will expire first in front of products with a later expiry date. Write expiry dates on stock cards, so stocks can be sent to facilities at least 6 months

Stock should flow through the ware house in an orderly manner: the different stages in the process include:-

- ✓ Receiving

Goods arrive in the receiving room and are inspected and entered to the stock recording system Receiving reports are prepared

- ✓ Storage

Accepted goods are moved to their allocated storage position in the ware house, where they are stored in the FIFO/FEFO order

- ✓ Allocation of stock

In most medical stores, the manager determines whether or not to allocate the complete quantities requested when a requisition is received. The decision depends on stock status and on a review consumption pattern and in some cases on budget status

- ✓ Order picking

Order picking is the systematic extraction of items from ware house shelving to fill a client's order. An order picking list is prepared {which is the original requisition form rather than a separate list}. Workers use this list to identify and collect the allocated items from the ware house. Picking staff work from picking list that defines the quantity and location of each item required. Order picking list is passed to the storekeeper.

- ✓ Then the order is double-checked by the storekeeper or shipping clerk before the item are packed, sealed and labeled for delivery

- ✓ Order assembly

Individual orders are assembled and check in the packing area. Then, they are packed for delivery and prepare delivery documents

- ✓ Dispatch and delivery

The packed goods are loaded onto the transport and dispatched, accompanied by necessary documentation

- ✓ Packing list =Type and quantity of items
- ✓ Invoice =Drug unit cost and total value
- ✓ Signed delivery notes

Note: Periodic stock reconciliation should be performed by comparing the actual and recorded stocks.

All significant stock discrepancies should be investigated as a check against inadvertent mix-ups and/or incorrect issue. In manufacturing facilities, partly used containers of materials and pharmaceutical products should be securely

reclosed and resealed to prevent spoilage and/or contamination during subsequent storage. Materials and pharmaceutical products from containers which have been opened or partly used should be used up before those in unopened containers.

Damaged containers should not be issued unless the quality of the material has been shown to be unaffected. Where possible, this should be brought to the attention of the person responsible for quality control. Any action taken should be documented.

All stocks should be checked regularly for obsolete and out dated materials and pharmaceutical products. All due precautions should be observed to prevent the issue of outdated materials and pharmaceutical products.

Returned goods, including recalled goods, should be handled in accordance with approved procedures and records should be maintained.

All returned goods should be placed in quarantine and returned to saleable stock only after this has been approved by a nominated, responsible person following a satisfactory quality re-evaluation.

Any stock reissued should be so identified and recorded in stock records. Pharmaceuticals returned from patients to the pharmacy should not be taken back as stock, but should be destroyed.

Reports expected from storage unit

1. Out of stocks (stocks of zero balance)
2. Expired stocks (stocks of out dated for use)
3. Deteriorated stocks (stocks of near to stock out)
4. Damaged stocks (broken, leakage, discoloration etc.)
5. Deviation from normal storage condition
6. Consumption reports (facility combined report)

A. Inventory discrepancies (lost by any reason)

2.5 **Storage conditions** (temperature, humidity and light)

A. **Temperature of storage conditions**

The following terms are commonly used in storage of pharmaceuticals (drugs, vaccines,. laboratory reagents). Therefore, you are expected to differentiate and use in your store management

B. **Store frozen*:***
Some products, such as certain vaccines, need to be transported within a cold chain and stored at –20°C (4°F). Frozen storage is normally for longer-term storage at higher- level facilities like PFSA central medical store. **Store at 2°–8°C (36°–46°F):** Some products are very heat sensitive but must not be frozen. These are usually kept in the first and second part of the refrigerator (never the freezer).This temperature is appropriate for storing vaccines for a short period of time.

C. **Keep cool*:*** Store between 8°–15°C (45°–59°F).

D. **Store at room temperature*:*** Store at 15° –25°C (59° –77° F).

E. **Store at ambient temperature**

Store at the surrounding temperature. This term is not widely used due to significant variation in ambient temperatures. It means “room temperature” or normal storage conditions, which means storage in a dry, clean, well-ventilated area at room temperatures between 15° to 25°C (59°–77°F) or up to 30°C, depending on climatic conditions. Remember that heat or high temperature will affect many products. It melts ointments and creams and causes other products to become useless.

It is important to have thermometers in various parts of the storeroom to monitor temperature. Monitoring temperature. Consistently monitor the temperature of the different areas within the store room. Keep thermometers in various places for monitoring

Keep the storeroom well ventilated (see section on humidity). For better ventilation, store boxes on pallets and leave room between rows of stacked boxes (see section on arranging products).Keep direct sunlight out of the storeroom. But, even if you do not

have thermometers, you can still monitor the heat. If you feel hot, your products are probably hot, too

Humidity of the store can affect certain pharmaceutical. Thus, when product labeled as“protect from moisture,” store the product in a space with no more than 60% relative humidity. In humid climate, dehumidifiers are useful for preventing moisture damage. If the store room has no dehumidifier, use ventilating fans, expose the area to the light or peon the windows if possible.

Ventilation**:** Open the windows or air vents of the storeroom to allow air circulation. Ensure all windows have screens to keep out insects and birds, and either have bars or are not open wide enough for anyone to climb in. Put boxes on pallets and ensure there is space between pallets and the walls of the storeroom

Packaging**:** Secure all lids. Never open a new container unless necessary.

Circulation*:* Use a fan to circulate fresh (outside) air. In bigger storerooms you may need a ceiling fan

Sunlight**;** Some health products are photosensitive and will be damaged if exposed to light. These include: -Multiple vitamins, Furosemide, Chloropheniraminemaleate Hydrocortisone ,latex products (such as male condoms), and X-ray film.

To protect products from sunlight

Shade the windows or use curtains, if they are in direct sunlight. Keep products in cartons .Do not store or pack products in sunlight. Use opaque plastic or dark glass bottles for products that require them. Maintain trees on the premises around the facility to help provide shade, but check them regularly to ensure that there aren’t any branches that can damage the facilities.

Cleanliness of the store: Keep clean your store as dirty materials attract different pests which can damage the quality of stored pharmaceuticals. Some common pests are rats, roaches, ants and wasps. Spilled items may attract pests. Clean spills and remove broken containers immediately .To protect against pests follow the following guidelines: Inside the storage facility: Regular cleaning to prevent conditions that favor pests.

Do not store or leave food in the storage facility. Keeping the interior as dry as possible .Paint or varnish woods. Regular inspection for evidence of pests

Outside the storage facility: Regularly inspect and clean the outside premises specially areas where garbage is stored. Check for rodent burrows. Using mercury vapor lighting where possible, and locate lighting away from the building to minimize the attraction of pests.

Security of store room**;** Pharmaceuticals are expensive so that they can be lost through theft. Follow the following procedures to keep the security of your store.

General rule to protect against theft:
Use double doors and double locks on entrance, Use burglar bars on window Control entry to the pharmacy, Set rules for staff who handle suppliers to be equally accountable for their actions, Maintain good control of stock cards and registries to detect theft.

A. Outside the facility

During transport:

Verify documents E.g. DIC (delivery invoice cards) or GRV Goods receiving voucher (Model 19)
Use packing seals, Use strong boxes
In outpatient departments and health centers. Set maximum dispensing quantities, Record individual prescriptions, Allow only pharmacy personnel to dispense

B. Protection against fire:

Availability of standard fire extinguishers in every storage facility and inspecting them every 2-3 months to ensure pressures are maintained and the extinguisher is ready for use. Service of fire extinguishers at least every 12 months. Placing smoke detectors and checking them every 2-3 months. Prohibiting smoking in the storage. Conducting fire drills every 6 months. Emergency exits should be clearly marked and checked regularly for accessibility and any blockage. Display of fire protection signs at appropriate places. Use of sand to extinguish fires where there are no fire extinguishers. Placing the sand bucket near the door

2.5.1 Vaccine storage and cold chain management

The potency of vaccines, sera, test kits, and many other items depends on cold storage. Vaccine, in particular, must be kept at precisely controlled temperatures from the point of manufacture to the point of administration. Also daily temperature record should be maintained properly. The “cold chain” is a system of transporting and storing vaccines, medicines and laboratory reagents within a recommended temperature range of +2 to +8 degrees Celsius (°C). For the cold chain management of vaccines, medicines and laboratory reagents we use different types of refrigerators and freezers. So let us look some of their types.

2.5.2 Refrigerators and freezers

Refrigerators that open on the top are more efficient than vertical ones, because hot air rises while cold air falls. The coldest part of vertical refrigerators is at the bottom Store products that are sensitive to freezing or very low temperatures on the upper shelves. Always have enough frozen icepacks to transport items requiring cold storage in cold boxes and/or vaccine carriers. Use only icepacks filled with water. Do not use icepacks prefilled with other liquids, which are usually blue or green. When ordering cold chain equipment, larger facilities should reassess the needs for icepacks and icepack freezer space.

If there is enough space, place a few plastic bottles of water in the refrigerator. This will help maintain the temperature for a longer period of time if the power is cut off. Place refrigerators and freezers with space between and about an arm’s length away from the wall. This will increase the air circulation

2.5.3 Storage of vaccines:

All vaccines and diluents must be stored in the refrigerator for short term between 2°C and 8°C in a pharmacy that issues to the end- user or clinics. For long terms storage -20°C is preferred only for BCG, OPV and measles. Do not freeze other vaccines. Domestic refrigerator, ice lined refrigerator are used for short term storage and deep freezer for long term storage.

Table: Potency& temperature for storage vaccines

Vaccine	Temperature	Potency maintained	Remarks
Oral Polio (OPV)	-20°C	1year	Avoid repeated thawing
4°C to 8°C	3 months	Keep on ice while using	
Bacillus Calmettle Guerine (BCG)	4°C to 8°C	1 years	Reconstituted vaccine, if not used within four hours must be discarded
DiphtheriaPertussis Tetanus (DPT)	4°C to 8°C	2 years	Must not be frozen
Diphtheria, Tetanus (DT)	4°C to 8°C	2 years	Must not be frozen
Measles	0°C to 2°C	2 years	Should be used immediately after reconstitution
Typhoid (TAB)	4°C to 8°C	8 months	Must not be frozen
Tetanus Toxoid (TT)	4°C to 8°C	8 months	Must not be frozen. Unused portion must be discarded
Hepatitis B	4°C to 8°C	4 years	Must not be frozen

2.5.6 Special storage conditions

A. **Flammables**

Flammables, such as alcohol, ether, acetone and kerosene must be stored in special buildings or rooms. A separate building is best because it greatly reduces the risk of a fire's spreading to the main store. The flammables store must be well ventilated and fireproof. It must be fitted with an "explosion hatch," which may be part of the roof or part of a wall. Fuel must never be stored in or near a medical store. Fuel tanks should be placed inside a locked compound to prevent theft. There should be a continuous earth bank or low wall around the tanks. The area enclosed should be sufficient to hold the total potential volume of fuel stored to

ensure that fuel is contained if a major spill occurs. With these precautions, if a fire occurs, the risk of its spreading will be reduced. A small working stock of flammables may be kept in a steel cabinet in well-ventilate premises, away from open flames and electrical appliances. The cabinets should be marked “highly flammable liquid” and bear the international hazard symbol. In addition, the shelves of the cabinet should be designed to contain and isolate spillage.

Always store flammables in their original container. Flammable liquids each have a **flash point**, which is the minimum temperature at which the liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid. The flash point indicates the susceptibility to ignition.

Acetone and anesthetic ether have a flash point of –18°C. Undiluted alcohols have a flash point of 18° to 23°C. The flash point for kerosene is 23° to 61°C.

It is not necessary to store flammables below their flash point, but it is very important to store them in the coolest location possible and never indirect sunlight. It is important to control the evaporation rate and avoid the build-up of pressure.

B. Corrosive chemicals

Corrosives or oxidant substances, such as: trichloracetic acid, glacial acetic acid, concentrated ammonia solutions, Silver nitrate, Sodium nitrite, and sodium hydroxide pellets, should be stored away from flammables, ideally in a separate steel cabinet. Appropriate industrial-type protective gloves and face-masks should be used when handling them

1. Access controlled drugs

Controlled substances should be kept in a **locked cupboard** or in a safe to which only one or two persons have access. Every entry and exit should be recorded in a **register**, which can be found in the cupboard or safe. Narcotic drugs, also called “dangerous drugs” are governed by special legislation and regulations that control import, export, production, supply, possession, prescribing, record keeping, and retention of documents. Typical examples are:

Narcotics: Morphine, Opium preparations, Pethidine, and Ketamine

Other opioid and strong analgesics: Pentazocine, Codeine, Dihydrocodeine, Dextroproproxyphene

Psychotropic drugs: usually the group of drugs called “benzodiazepines,” of which diazepam is the best-known example. Strong tranquilizing medicines, such as chlorpromazine, may also be found under this heading.

2. Cold chain system

Different Pharmacopoeias describe conditions for storage of some official substances which are likely to deteriorate, if not stored properly. It is important to follow the manufacturer’s recommended storage conditions for all products. The terms used under definite meaning of the pharmacopeia are:

I. Store frozen: Some products, such as certain vaccines, need to be transported within a cold chain and stored at -20°C. Frozen storage is normally for longer-term storage at higher-level facilities.

II. Do not freeze or do not store over 8°C: To be kept in refrigerator (from +2°C to +8°C
but not in the freezer chamber).

III. Keep Cold: Storage at any temperature NOT exceeding 8°C and usually between 2°C
and 8°C but must not be frozen. These are usually kept in the first and second part of the refrigerator (never the freezer). This temperature is appropriate for storing vaccines for a short period of time. A refrigerator is a cold place in which the temperature is maintained thermostatically
between 2°C and 8°C.

IV. Keep Cool: Store at 8°- 25°C. An article for storage in a cool place is directed, may, alternatively, be stored in a refrigerator (at temperature between 2°C and 8°C), unless otherwise specified in the individual monograph. Store at room temperature or do not store over 30°C: store at 15°C - 30°C.

V. Storage at ambient temperature: Store at the surrounding temperature. This term is
not widely used due to significant variation in ambient temperatures. It means “room temperature” or normal storage conditions, which means storage in a dry, clean, well

ventilated area at room temperatures 15° to 25°C or up to 30°C, depending on climatic conditions.

VI. Protect from moisture: To be stored in normal humidity at room temperature (Relative Humidity less than 60%).

VII. Protect from light: To be stored in a light-resistant cupboard/drawer; to be provided
by the manufacturer in a light- resistant container.

2.5.7 Guidelines for pharmaceutical storage

In general, supplies should be protected from sun, heat, and water. Follow manufacturer recommendations for storing supplies. This information is usually printed on the product carton and boxes. The following are general storage guidelines for pharmaceuticals. Storage Guidelines

1 Clean the store room regularly.

2 Store pharmaceuticals in a dry, well-lit, well ventilated storeroom –out of direct sunlight

3 Protect storeroom from water penetration.

4 Keep fire safety equipment available, accessible, and functional, and train employees to use it.

5 Store latex products away from electric motors and fluorescent lights.

6 Maintain cold storage, including a cold chain, as require

7 Limit storage area access to authorized personnel and lock up controlled substances.

8 Stack cartons at least 10cm off the floor, 30 cm away from the wall and other stacks, and no more than 2.5m high

9 Store medical supplies away from insecticides, chemicals, old files, office supplies and other materials. Store flammable products separately from other

10 Store pharmaceuticals to facilitate FEFO procedures and stock management Arrange cartons with arrows pointing up, and with identification labels ,expiry dates, and manufacturing dates clearly visible.

Separate unusable pharmaceuticals from unusable pharmaceutical and dispose of damaged or expired products Remove them from inventory immediately and dispose of them using established procedures

Self-Check -2	Written Test 2

Directions: Answer all the questions listed below. Use the Answer sheet provided in the below

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

I. Writ true if the statement is correct, write false if the statement is incorrect

1. -------Pharmaceuticals have a shelf life which is specified by the user.
2. ------When pharmaceuticals reach the end of their shelf, it has expired and should not be distributed to patients. Some health products have short shelf lives.
3. ------Always check the expiry dates before receiving, issuing or using,

II. Choose the answer from the following alternatives

1. ----- is the length of time a product may be stored without affecting the usability and safety of the item, if the product is stored under the prescribed conditions.

A. Shelf life
B. Expire date
C. Beyond use date
D. Sealing date

Note: **Satisfactory rating -4 points** **Unsatisfactory - below 4 points**

Answer Sheet

1_____
2_____
3 _____
1_____

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Ware house management

3.1 Warehouse

Is a central hub in the supply chain, where inventory is received from vendors/suppliers and stored until it's eventually distributed to consumers? Store is a location where materials are preserved while storage is a means of organizing and handling inventory in stores. In other words, storage is the management of storehouses and stockyards, the operation of holding and storage of pharmaceutical & related supplies and protection of such products.

Warehouse layout planning is the discipline of assessing the space requirements of a warehouse or other storage facility and specifying how that space should be organized to facilitate identifiable warehouse activities. Warehouse layout planning is guided by the following principles.

1. **Item similarity:** Similar handling requirements stored together

2. **Item popularity:** Fastest moving bulk stocks should be stored in areas that allow quick and easy access to reduce travel of materials handling equipment and stock selection personnel. Items with the lowest turnover rate should be planned for placement in areas progressively farther away from active stock or processing areas.

3. **Item size/Dimension and weight:** the dimensions and weight of individual items affect not only the amount of storage space allotted, but also the location in which items are to be stored.

4. **Item's quantity:** it is frequently desirable to increase the amount of space assigned to an item in a single location in order to eliminate the need for other locations.

5. **Item characteristics:** most items do not require special storage

areas. Some items do require:

6. **Hazardous items:** needs to be specially stored or handled to prevent a hazard to personnel and facilities.

7. **Sensitive material:** Some items require a high degree of protection and control due to statutory requirements or regulations, (e.g., narcotics and drug items; precious metals, items which are of high value; highly technical).

8. **Perishable and deteriorative:** some materials have limited storage life and care must be taken to assure that the oldest stock or that which may have an earlier expiration date is issued first

Checklist for drug warehouse management

1. Daily/Weekly

a. Monitor storage condition
b. clean receiving, storage, packing, and dispensing areas
c. Sweep or scrub floors
d. remove garbage
e. Clean bins, shelves, and cupboards, if needed.
f. Ensure that passages are clean.
g. Ensure adequate ventilation and cooling
h. Ensure that products are protected from direct sunlight.
i. Monitor store security and safety.
j. Check the store roof for leaks, especially during rains.
k. Monitor product quality (visually inspect commodities and check expiration dates)
l. Ensure that products are stacked correctly.
m. Update stock records
n. Conduct physical inventory and update stock keeping records
o. Monitor stock levels, stock quantities, and safety stocks.
p. Submit emergency order (as needed, using local guidelines)
q. Update bin cards
r. Separate expired stocks and move to secure area

2. Monthly

a. Conduct physical inventory or cycle count, and update stock keeping records
b. check for signs of rodents, insect or roof leaks.
c. Inspect the storage structure for damage, including the walls, floors, roof, windows, and doors.

3. Every 3 months (quarterly)

a. Conduct physical inventory or cycle count, and update stock keeping records
b. Use established procedures to dispose of expired or damaged products.
c. Visually inspect fire extinguishers to ensure that pressures are maintained and extinguishers are ready for use.

4. Every 6 months

a. Conduct fire drills and review fire safety procedures

5. Every 12 months

a. Service fire extinguishers and smoke detectors
b. conduct complete physical inventory and update stock keeping records.
c. Reassess maximum/minimum stock levels, and adjust if needed.

Information Sheet-4	Transportation management

4.1 Transportation management

Transport is frequently the least reliable link in the distribution system and is often a source of great frustration. Transport planning requires the selection of appropriate means of transport and the procurement and maintenance of vehicles or other conveyances.

Issues to be considered include

1. Using private-sector alternatives
2. Planning transport system improvements
3. Acquiring and disposing to vehicles
4. Managing vehicle use
5. Maintaining vehicles
6. Maintaining drug quality during transport

Transportation or shipment is necessary for an uninterrupted and seamless supply.

The factors that have an impact on shipment are

- ✓ Economic uncertainty and instability,
- ✓ Varying fuel prices, customers' expectations,
- ✓ Globalization, improvised technologies,
- ✓ Changing transportation industry and labor laws.

The major elements that influence transportation should be considered, as it is completely dependent on these factors for order completion as well as for ensuring that all the flows work properly. The major factors are:

I. Long-term Decisions

Now, when we say long term decision, we mean that the transportation manager has to select what should be the primary mode of transportation. The manager has to understand the product flows, volume, frequency, seasonality, physical features of products and special handlings necessities, if any.

For example, in order to transport stock to regional cross dock facilities for sorting, packaging and brokering small loads to individual customers, stock destinations can be assembled through contract transportation providers.

II. Lane Operation Decisions

These functional decisions stress on daily freight operations. Here, the transportation managers work on real time information on products' requirements at different system nodes and must collaborate every move of the product that is both inbound and outbound shipping lanes so as to satisfy their services demands at the minimal possible cost.

For example, a shipment has landed from a supplier who is based in New Jersey and in the same week, a product needs to be dispatched to New York as it becomes available for movement.

III. Choice and Mode of Carrier

A very important decision to be made is to choose the mode of transportation. With the improvement in the means of transportation, modes of transport that were not available in the traditional transportation modes in the past can be now be a preferred choice.

For example, rail container service may offer a package that is cost-efficient and effective as compared to a motor transport.

IV. Dock Level Operations

This involves the last level of decision-making. This comprises planning, routing and scheduling.

For example, if a carriage is being loaded with different customers' orders, the function of the dock-level managers is to assure that the driver is informed of the most efficient route and that loads are placed in the order of the planned stops.

Self-Check -3	Written Test 3

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Writ true if the statement is correct, write false if the statement is incorrect

1. ------Transport is frequently the least reliable link in the distribution system and is often a source of great frustration
2. -----Transport planning requires the selection of appropriate means of transport and the procurement and maintenance of vehicles or other conveyances

Note: **Satisfactory rating -2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1. _____
2. _____

Name: _____ Date: _____

Score = _____

Rating: _____

Information Sheet-5	De-junking

5.1 De-junking

De junking means getting rid of the ―junk‖ in a storage facility, including DEPS (Damaged and Expired Products) and any other items that do not belong in storage facility for health products. (These items can include old furniture, outdated forms, fuel barrels, vehicle parts, etc.) De junking is also a time for reorganizing a storage facility and getting bin cards and stock record cards up to date. De junking can greatly increase storage space.

2.2 Steps in De junking

A. Assign ―De junking Team‖
B. Gather materials & equipment for de junking (boxes for collecting unusable
C. Items push carts, etc).
D. Separate unusable items from usable items.
E. Update Bin Cards and Stock Record Cards if loss not previously recorded.
F. Sort unusable items by final disposition:
G. Sell/auction
H. Repair & Use
I. Recycle
J. Destroy

K. Dispose of unusable items per final disposition.
L. Prepare report of de junking activity.
M. Deposit income from sale of unusable items into facility account.
N. Clean storage facility and adjust shelving as needed.
O. Reorganize storage facility taking advantage of reclaimed space.
P. Assign staff responsible for routine disposal of unusable items.
Q. Establish routine schedule of disposal of unusable items.
R. Monitor implementation for routine disposal.

Self-Check -3	Written Test 3

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Writ true if the statement is correct, write false if the statement is incorrect

1. ------De junking can greatly decrees storage space.

II. Choose the answer from the following alternatives

1. ---means getting rid of the —junkll in a storage facility, including DEPS (Damaged and Expired Products)

A. Organizing
B. De junking
C. Storing
D. labeling

Note: **Satisfactory rating -2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1_____

1_____

Name: _____ Date: _____

Score = _____

Rating: _____

LG#41	Lo8. Inventory management

Instruction
This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics • Introduction to IPLS • Basic components of IPLS • Logistics Management Information system • Reports and records in IPLS • Inventory Control System in IPLS • Management roles and levels This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to** • Describe the purpose of the system • Outlined flow of information and products in the system • Explained the context within which the system operates • Identify responsibilities of the responsible institutions in implementing IPLS • Defined IPLS roles of the practitioners in hospitals, health centers and hospitals

Learning Instructions
2 Read the specific objectives of this Learning Guide. 3 Follow the instructions described below. 4 Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them. 5 Accomplish the “Self-checks” which are placed following all information sheets. 6 Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks). 7 If you earned a satisfactory evaluation proceed to “Operation sheets 8 Perform “the Learning activity performance test” which is placed following “Operation sheets” , 9 If your performance is satisfactory proceed to the next learning guide, 10 If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet-1	**Inventory management**

1.1 Introduction to IPLS

The provision of complete health care necessitates the availability of safe, effective and affordable drugs and related supplies of the required quality, in adequate quantity at all times.

Despite this fact, in the past, the pharmaceutical supply chain management system of the country had several problems including

- ✓ non-availability,
- ✓ unaffordability,
- ✓ Poor storage and stock management and irrational use.

To solve these problems in public health facilities, Pharmaceuticals Fund and Supply Agency (PFSA) was established in 2007 by Proclamation No. 553/2007 based on the Pharmaceuticals Logistics Master Plan (PLMP). The Agency is mandated to avail affordable and quality pharmaceuticals sustainably to all public health facilities and ensure their rational use. So as to execute its mandate in the area of pharmaceuticals supply in an efficient and effective manner, integrated pharmaceuticals logistics system (IPLS) has been developed and implemented since 2010. IPLS is the term applied to the single pharmaceuticals reporting and distribution system based on the overall mandate and scope of the PFSA. It aims to ensure that patients always get pharmaceuticals they need.

The purpose of the IPLS system

- ✓ Recording and reporting on stock levels and usage of pharmaceuticals.
- ✓ Ordering pharmaceuticals from PFSA
- ✓ Receiving and storing pharmaceuticals
- ✓ Issuing pharmaceuticals between and within facilities
- ✓ Maintaining adequate amount of pharmaceuticals

To be successful, the system must fulfill the six rights of supply chain management by ensuring the

A. The right products,
B. In the right quantity,
C. Of the right quality,
D. At the right place,
E. At the right time and
F. For the right cost

The IPLS integrates the management of essential pharmaceuticals including the following pharmaceuticals that were used to be managed vertically

- ✓ HIV/AIDS, Malaria, TB and Leprosy, EPI, MCH and purchased essential drugs.

IPLS is the primary mechanism through which all public health facilities obtain essential and vital pharmaceuticals. Products included on the National pharmaceuticals procurement List (NPPL) are supplied and managed through the IPLS.

One of the first concrete steps to move the integrated system from concept to detailed implementation step was; The development of the Standard Operating Procedures (SOP) Manual for health facilities of Ethiopia.

The manual guides the staff in the completion of the following tasks:

- Recording and reporting on stock levels and usage of pharmaceuticals.
- Ordering pharmaceuticals from PFSA
- Receiving and storing pharmaceuticals
- Issuing pharmaceuticals between and within facilities
- Maintaining adequate amount of pharmaceuticals

1.2 Basic components of IPLS

The integrated pharmaceutical logistics system has three main components including

A. The policies and guidelines for LMIS

B. Inventory control system

C. Storage pharmaceutical at all level supply chain system

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Writ true if the statement is correct, write false if the statement is incorrect

1. ____provision of complete health care necessitates the availability of safe, effective and affordable drugs and related supplies

2. ____IPLS is the term applied to the single pharmaceuticals reporting and distribution system based on the overall mandate and scope of the PFSA.

II. Choose the answer from the following alternatives

I. IPLS to be successful, the system must have The right products,

A. In the right quantity,

B. Of the right quality,

C. At the right place,

D. At the right time and

E. All

Note: **Satisfactory rating -3 points** **Unsatisfactory - below 3 points**

Answer Sheet

IV. _____

V. _____

VI. _____

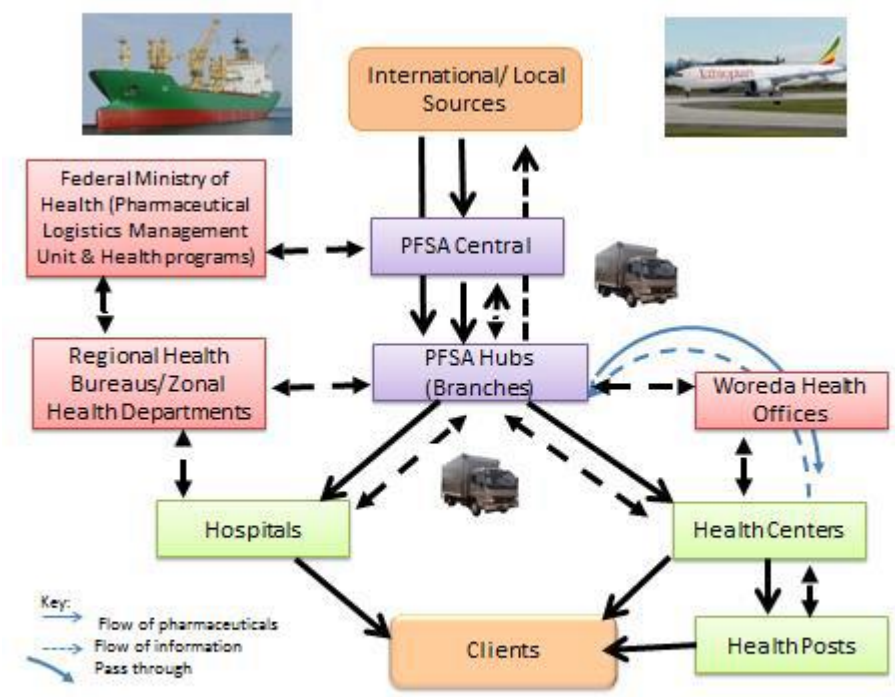
Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Logistics Management Information system

2.1 Logistics Management Information system



Flow of Pharmaceuticals and Information in the Integrated Pharmaceutical Logistics System (IPLS)

Logistics information is collected and reported monthly by health posts and every other month by health centers and hospitals on logistics management information system (LMIS) forms. For direct delivery facilities a combined report and requisition form is completed by health centers and hospitals and sent to PFSA Hubs for requisition processing; The health center order includes the pharmaceuticals requirements of the health posts. For non-direct delivery facilities a combined report and requisition form is completed by health centers and sent to PFSA branches through WoHOs. A copy of the health center report and order and a copy of each health post report are sent to the

Woreda Health Office for management and supervision purposes; A copy of the hospital report and order is sent to the Regional Health Bureau for management and supervision purposes.

The overall information system also includes a mechanism for providing —feedback‖ to lower level facilities from upper level facilities. In the feedback reports, facilities will be able to see how they are performing compared to other facilities in their area and will be able to facilitate stock transfer. For instance, the Woreda or PFSA Hub may provide a short report to all of the health centres showing the stock status of priority products (vital pharmaceuticals), number of stock outs, reporting rate, and consumptions trend in the different health centres.

The Woreda or PFSA might also provide specific reports to health centres pointing out errors in their report .IPLS at facility level includes the following basic logistics functions

2.2 Logistics Ma nagement Information System (LMIS) in IPLS.

I. The primary function of the LMIS is
II. To support the management of essential pharmaceuticals.
III. Three essential data items are required to run a logistics system and, therefore, must be captured by the LMIS. These three essential data items are:

Stock on Hand: Quantities of usable stock available at a particular point in time.
Consumption Data: The quantity of pharmaceuticals used during the reporting period.
Losses/Adjustments:

Losses are the quantities of products removed from your stock for anything other than in the provision of services to patients or issuing to another facility (e.g. expiry, lost, theft, or damage) and are recorded as negative (-) numbers. Adjustments are quantities of a product received from any source other than PFSA, or issued to anyone other than your health facility. An adjustment may also be a correction due to an error in mathematics. An adjustment may be a negative (-) or positive (+) number.

There are only three activities that happen to pharmaceuticals within a logistics system:

1. They are stored,
2. They are Moved between facilities, and
3. They are used to provide health services to patients.

A well-designed logistics management information system will include

✓ Records and forms that collect and report the three essential data items as they relate to these three activities.

Records and forms have been designed for the Integrated Pharmaceuticals Logistics System LMIS and are included in this SOP Manual along with step-by-step instructions on how to complete them. The roles and responsibilities of key personnel in the system were highlighted in the previous section, and these same people are responsible for completing these LMIS forms.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Choose the answer from the following alternatives

1. The primary function of the LMIS is

A. To support the management of essential pharmaceuticals.

B. To increase the wastage of pharmaceutical

C. To increase stock out of pharmaceutical

D. To decrees patient satisfaction

2. The essential data items are required to run a logistics system is

A. Stock on Hand: C. Losses/Adjustments

B. Consumption Data: D. All

3. What happen to pharmaceuticals within a logistics system?

A. They are stored, C. They are used to provide health services to patients.

B. They are Moved between facilities, and D. All

Note: **Satisfactory rating -3 points** **Unsatisfactory - below 3 points**

Answer Sheet

1_____

2_____

3_____

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Reports and records in IPLS

3.1 Reports and records in IPLS

Bin Cards and Stock Record Cards are used to account for products held in storage, including their receipt and issue. In the IPLS valuable information used to make re-supply decisions is recorded on the Bin Card and Stock Record Card; Data from these records are used in reporting, calculating reorder quantities and for monitoring stock levels.

The Bin Card is used at all health facilities (Health Post, Health Centre and Hospital); the Stock Record Card is used only at the health centers and hospitals. It is essential that personnel responsible for the management of pharmaceuticals maintain up-to-date and accurate Bin Cards and Stock Record Cards for each product and individual units of issues for products having more than one units of issue.

REPORTING AND ORDERING PHARMACEUTICALS A. Reporting by the Health Posts Health Posts complete one part of the Health Post Monthly Report and Re-supply Form every month and carry the report to the health center. The health centre uses the information found on the *Health Post Monthly Report and Re-supply Form* to complete the form and calculate the quantity of pharmaceuticals needed by the health post.

Each month, the health centre will issue enough stock to bring the health post up to its Maximum Stock Level of 2 months of stock for each product.
Reporting and Ordering by the Hospitals and Health Centres
Hospitals and Health Centres use the *Report and Requisition Form (RRF)*
To:

- ✓ Report on the quantities of pharmaceuticals used, lost or transferred, and the quantities of stock available
- ✓ Order pharmaceuticals
- ✓ The actual *RRF* used by hospitals and health centers to report and order pharmaceuticals are the same
- ✓ Except the *hospital, RRF* includes larger number of pre-printed items on the form than the health centers**.**
- ✓ And also, to improve pharmaceuticals management by level, the level specific RRFs will have 5 subgroups (pads) for program and 4 for RDF pharmaceuticals

RRF 1 - Hospitals and ART Health Centers (Program Medicines)
RRF 2 - PMTCT Health Centers (program medicines and laboratory Regents)
RRF 3 - Special Lab Monitoring Sites (Program Reagents, Supplies and Diagnostics)
RRF 4 - Hospitals and Lab Monitoring Health Centers (Program Reagents, Supplies and Diagnostics)
RRF 5: Non Lab Monitoring ART Health Centers (Program Reagents, Supplies and Diagnostics)
RRF 6 - Hospitals (RDF Medicines)
RRF 7 – Health centers (RDF Medicines)
RRF 8 – Hospitals (RDF Supplies and Diagnostic Reagents)
RRF 9- Health centers (RDF supplies and Diagnostic Reagents)

In preparing the order for pharmaceutical to be purchased, the facility should complete the cost analysis worksheetll to know the monetary value of products to be ordered.
If the budget is insufficient to order all pharmaceuticals, the facility should do VEN analysis and order all pharmaceuticals in Group V first, the items in Group E second, and the Group N items last as funds allow. Additional funds from other sources can be used to supplement the budget.

Products are needed to be reported in agreed upon defaults units, which are pre printed in level specific RRF. That is, all other units of issue should be converted to the default unit to be added later on the product with default unit using the following conversion factor:

Conversion Formula = Number of Units in the pack X Quantity in the Bin Card +... Number of Units in each standard pack for products coming in individual patient kit form the unit of issue remains kit or no need to convert the unit to other default unit of issue. Facilities that submit their *RRF* on time should always have sufficient stocks of pharmaceuticals to serve their patients.

Facilities should send their completed and approved *RRF* to PFSA until the 10th day of the month following the end of the reporting period. Health centres that are served through WoHO should submit the original and one copy of RRF to WoHO until the 5th day of the month. Woreda health offices will send the original RRF reports to affiliated PFSA branch until the 10th day of the month on the behalf of the health centres. For example, if the last month of the reporting period was Tikimt, the *RRF* would be due at PFSA by Hidar 10th. At PFSA, data from RRF will be used for national quantification

and procurement activities after being aggregated in addition to routine resupply decisions.

In addition, Hospitals and Health Centres should submit a copy of the *RRF* to RHB/ZHD/WoHO until the 10th day of the month following the reporting period as specified below.

- ✓ The *RRF* has 3 copies.
- ✓ Copies are distributed and kept during the process as follows:
- ✓ Hospital or Health Centre complete 3 copies of the *RRF*
- ✓ Sends 1 copy to PFSA
- ✓ Sends 1 copy to administrative body (RHB/ZHD or WoHO)
- ✓ Keep one copy with them
- ✓

The RRF form may be sent by post, electronically (for HCMIS FE sites), courier or hand-carried. RRF is important that it should be received as quickly as possible after completion. If a facility has a facsimile (fax) machine, the RRF should be faxed to PFSA and to the appropriate management unit, and then the original copies would be sent by post. The following job aid describes how to complete the Report and Requisition Form. Pharmaceuticals logistics data (RRF) acquisition options

Completed RRFs at SDPs should reach to respective PFSA branches on time to make resupply and other decisions. They may be sent by post, electronically (for HCMIS FE sites), courier or hand-carried. It is important that it should be received as quickly as possible after completion. If a facility has a facsimile (fax) machine, the RRF should be faxed to PFSA and to the appropriate management unit, and then the original copies would be sent by post. PFSA identified and proposed the following options of acquiring the data. Health Management Information System (HMIS) Route:

Two copies of completed RRFs will be sent to respective management units (WoHO/ZHD/RHB) along with other HMIS Reports.

WoHOs/ZHDs/RHBs will keep one copy and sends the original to respective PFSA branch.

Fax: This option is recommended for facilities having a fax machine. Data Processors: Trained professionals are assigned to collect facility RRFs and provide onsite technical assistance on RRF completion and data quality. Telephone: This method of pharmaceutical logistics data acquisition is a means of getting pharmaceutical logistics

report from health facilities through the telephone. Other Delivery Means: The other delivery means is a way by which health facilities deliver their pharmaceutical logistics report and requisition hand-carried to the nearby hub for resupply decision.

Each PFSA hub works closely with the ZHDs and RHBs of their respective catchment area to map the data acquisition of all sites served by the branches and it is communicated to the health facilities by the RHBs/ ZHDs. The methods used in each site are documented by the branch and it is periodically reviewed based on the situation of the health facilities. In addition to this, the performance of each health facility is monitored and evaluated.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Writ true if the statement is correct, write false if the statement is incorrect

1. Bin Cards and Stock Record Cards are used to account for products held in storage, including their receipt and issue.
2. Each month, the health center will issue enough stock to bring the health post up to its Maximum Stock Level of 2 months of stock for each product

II. Choose the answer from the following alternatives

1. The Bin Card is used at

A. Health Post, C. Hospital);
B. Health Centre D. ALL

2. The Stock Record Card is NOT used at

A. Health Post, C. Hospital)
B. Health Centre D. ALL

3. Health Posts complete one part of the *Health Post Monthly Report and Re-supply Form* every month and carry the report to

A. The health center C. PFSA
B. The hospital D. Other health post

Note: **Satisfactory rating -5 points** **Unsatisfactory - below 5 points**

Answer Sheet

1_____
2_____

- ___
- ___
- ___

Score = _____

Rating: _____

Name: _____ Date: _____

InformationSheet-4	Inventory Control System in IPLS

4.1 Inventory Control System in IPLS

To help maintain adequate stock levels, the maximum months of stock, minimum months of stock and an emergency order point have been established for each health facility in the system. The maximum months of stock is the largest amount of each pharmaceutical a facility should hold at any one time.

If a facility has more than the maximum, it is overstocked and risks having stocks expire before they are used.

- ✓ The minimum months of stock is the level of stock at which actions to replenish inventory should occur under normal conditions.
- ✓ The emergency order point is the level where the risk of stocking out is likely, and an emergency order should be placed immediately.

The inventory control system for the IPLS is a Forced Ordering Maximum/Minimum inventory control system. This means that all facilities are required to report on a fixed schedule (monthly at health posts, every other month at health centers and hospitals) for all products. In addition, all products are re-supplied each time a report is completed. In emergencies, an emergency order can be placed. In practice, this means that:

- Health centers and hospitals are required to report and order every two months.
- Health centers and hospitals calculate their own order quantities, ordering sufficient quantities of all pharmaceuticals to bring stock levels up to the maximum level.
- Health posts report data monthly to their affiliated Health Centre.
- The Health center calculates the re-supply quantities that are needed to bring health post stocks up to the maximum level.

If the stock on hand for any product at a facility falls below a set emergency order point before the end of the reporting period, an emergency order should be placed. (See the Job Aid on Placing Emergency Orders.) The maximum months of stock, the minimum months of stock and emergency order points for the different levels of the health logistics system are shown in the following table

Level	Review Period	Maximum Months Stock	Minimum ofMonths Stock	Emergency ofOrder Point
Health centers and Hospitals	Every other month	4 months	2 months	0.5 months (= 2 weeks)
Health Posts	Monthly	2 months	1 months	0.25 months (= 1 week)

Within hospitals and health centers, products will be managed centrally in the Pharmacy Store. All products will be received into the pharmacy store and most of the products will be stored there, until they are needed in the various dispensing units within the facility. The pharmacy store manager and pharmacy head in collaboration with staffs in dispensing units will establish a re-supply schedule for the dispensing units*.

For example, each dispensing unit will have one day per week/per 2 weeks designated for re-supply. On that day, dispensing unit staff will complete an Internal Facility Report and Resupply Form; the Pharmacy Store manager will use the information to determine the re-supply quantity needed to serve clients until the next scheduled re-supply day.
Example. Every Monday (on a weekly or twice monthly basis), the MCH service provider reports data to the pharmacy store and receives enough product to serve clients during the week or next 2 weeks.

This system ensures that the dispensing units are not overworked with pharmaceuticals management responsibilities and that the quantities issued to the dispensing units from the pharmacy stores reflect actual consumption by the clients.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Writ true if the statement is correct, write false if the statement is incorrect

1. ___The maximum months of stock is the largest amount of each pharmaceutical a facility should hold at any one time.
2. ___If a facility has more than the maximum, it is overstocked and risks having stocks expire before they are used.

II. Choose the answer from the following alternatives

1. Maximum Months of Stock for hospital is

A. 4 months
B. 2 months
C. 3 months
D. 1monthes

2. Maximum Months of Stock for health post is

A. 4 months
B. 2months
C. 3months
D. 1monthes

Note: **Satisfactory rating -4 points** **Unsatisfactory - below 4 points**

Answer Sheet

1_____
2_____
1___
2___

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-5	**Management roles and levels**

5.1 Management roles and levels

I. . **Levels of Management**

Managers perform management activities at a number of levels

A. individual management

- Self-management
- Occur much **more frequently** at lower levels**.**

B. Interpersonal management

1. between the manager and one other person
2. E.g. a pharmacist counseling a patient about a medication
3. Organizational management
4. Occurs less frequently
5. Involves actions that affect groups of people

E.g.1 deciding where to go for lunch

E.g.2 when a pharmacist needs to develop a policy or make a decision that may affect many people at the pharmacy.

II. **Managerial role**

Is a set of expectation place on any one in a position of responsibility by the people around that person **Role of manager?**

Role of Leader

- ✓ Directing
- ✓ motivating staff
- ✓ maintaining liaison with other organization
- ✓ Communicator
- ✓ maintaining networks of formal or informal
- ✓ Disseminating information
- ✓ Serving as spokes person
- ✓ Decision maker
- ✓ Resource allocation
- ✓ Program change and development
- ✓ Problem solving
- ✓ Negotiating

III. Managerial skills

A. Technical skill

E.g. pharmacy, other skill related to specific jobs

B. Conceptual and analytical skill

- ✓ ability to synthesize information
- ✓ understand the prevailing circumstance
- ✓ use planning program to move forward

C. Decision making skill

- ✓ Identify and select option using analytical and technical skill
- ✓ Decide

D. People skill

- ✓ Understanding, motivating and directing people
- ✓ Building team and improving effectiveness

E. Financial skill

- ✓ Budgeting
- ✓ Assessing value for money in people and projects

F. Negotiating

- ✓ Adhering to budget
- ✓ Coping with constraint

G. Communication and research skill

- ✓ Listening, reading, writing, running meeting and making public presentation

H. Computer skill

- ✓ Proficiency in different software

Qualities of manager

I. Provide clear direction
II. Encourage open communication
III. Coaches and support people
IV. Recognize staff for good performance
V. Follow up on important issues and provide feedback
VI. Select the right of people for specific assignment
VII. Understand the financial implication of decision

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Choose the answer from the following alternatives

1. Which one of the following is –Self-management

A. individual management

B. Interpersonal management

C. Organizational management

D. Institutional management

2. One of the following is not role of manager

a. Disseminating information

b. Decision maker

c. Resource allocation

d. None

3. What are the skills required from manager

A. Technical skill

B. Decision making skill

C. Financial skill

D. All

Note: **Satisfactory rating -3 points** **Unsatisfactory - below 3 points**

Answer Sheet

1_____

2_____

3_____

Score = _____

Rating: _____

Name: _____ Date: _____

LG#42	Lo9. Essential data's for decision making

Instruction

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics

- Essential data's for decision making
- Stock keeping records
- Transaction records
- Consumption records
- Reporting system

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to**

- Job aids are used to complete a form
- New bin cards are opened and transactions are recorded on a Bin Card
- New Stock Record Cards are opened and transactions are recorded on a Stock Record Card.
- Physical count is conducted and the results are recorded on Bincards

Learning Instructions
1. Read the specific objectives of this Learning Guide. **2.** Follow the instructions described below. **3.** Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them. **4.** Accomplish the “Self-checks” which are placed following all information sheets. **5.** Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks). **6.** If you earned a satisfactory evaluation proceed to “Operation sheets **7.** Perform “the Learning activity performance test” which is placed following “Operation sheets” , **8.** If your performance is satisfactory proceed to the next learning guide, **9.** If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet-1	**Essential data's for decision making**

1.1 Essential data's for decision making

Decision phase can be defend as the deferent stage involved in supply chain management for taking an action or decision related to some product or services . Successful supply chain management requires decision on the flow of information product and founds that fall in to three decision phase. The three phases are described below.

1. Supply chain strategy
2. Supply Chain planning
3. Supply chain operation

Figure: Decision Phases

(a) **Supply Chain Strategy**

- ✓ In this phase, decision is taken by the management mostly.
- ✓ The decision to be made considers the sections like long term prediction and involves price of goods that are very expensive if it goes wrong.
- ✓ It is very important to study the market conditions at this stage.
- ✓ These decisions consider the prevailing and future conditions of the market.
- ✓ They comprise the structural layout of supply chain.
- ✓ After the layout is prepared, the tasks and duties of each is laid out.
- ✓ All the strategic decisions are taken by the higher authority or the senior management.

These decisions include

1. Deciding manufacturing the material, factory location, which should be easy for transporters to load material and to dispatch at their mentioned location, location of warehouses for storage of completed product or goods and many more.

B. Supply Chain Planning

- ✓ Supply chain planning should be done according to the demand and supply view.
- ✓ In order to understand customers' demands, a market research should be done.
- ✓ The second thing to consider is awareness and updated information about the competitors and strategies used by them to satisfy their customer demands and requirements.
- ✓ As we know, different markets have different demands and should be dealt with a different approach.
- ✓ This phase includes it all, starting from predicting the market demand to which market will be provided the finished goods to which plant is planned in this stage.
- ✓ All the participants or employees involved with the company should make efforts to make the entire process as flexible as they can.
- ✓ A supply chain design phase is considered successful if it performs well in short-term planning.

C. Supply Chain Operations

- The third and last decision phase consists of the various functional decisions that are to be made instantly within minutes, hours or days.
- ✓ The objective behind this decisional phase is minimizing uncertainty and performance optimization.
- ✓ Starting from handling the customer order to supplying the customer with that product, everything is included in this phase.
- ✓ For example, imagine a customer demanding an item manufactured by your company. Initially, the marketing department is responsible for taking the order and forwarding it to production department and inventory department.
- ✓ The production department then responds to the customer demand by sending the demanded item to the warehouse through a proper medium and the distributor sends it to the customer within a time frame.
- ✓ All the departments engaged in this process need to work with an aim of improving the performance and minimizing uncertainty.

Self-Check -1	Written Test 1

Directions: Answer all the questions listed below. Use the Answer sheet provided below

i. Writ true if the statement is correct, write false if the statement is incorrect

1. ____Decision phase can be defined as the different stage involved in supply chain management for taking an action or decision related to some product or services.
2. ____successful supply chain management requires decision on the flow of information product and founds that fall in to three decision phase.

ii. Short answer

1. List and explain the three phases of decision in supply chain management

Note: **Satisfactory rating -3 points** **Unsatisfactory - below 3 points**

Answer Sheet

1. _____
2. _____
3. _____

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Recording and reporting in IPLS

2.1 Stock keeping records

- ✓ Bin Cards and Stock Record Cards are used to account for products held in storage, including their receipt and issue.
- ✓ In the IPLS valuable information used to make re-supply decisions is recorded on the Bin Card and Stock Record Card;
- ✓ Data from these records are used in reporting, calculating reorder quantities and for monitoring stock levels.
- ✓ The Bin Card is used at all health facilities (Health Post, Health Centre and Hospital);
- ✓ The Stock Record Card is used only at the health centers and hospitals.
- ✓ It is essential that personnel responsible for the management of pharmaceuticals maintain up-to-date and accurate Bin Cards and Stock Record Cards for each product and individual units of issues for products having more than one units of issue.

.2.1.1 maintaining the Bin Card

- ✓ The following job aid describes the procedures for maintaining *Bin Cards* for pharmaceuticals.
- ✓ One *Bin Card* should be maintained for each pack size, form or presentation of pharmaceuticals.
- ✓ The *Bin Card* should be kept with the product in the storage area

JOB AID: Recording Transactions in the Bin Card

Task: Recording Transactions in the Bin Card **Completed by:** Health staff in charge of pharmaceuticals (Health Extension Worker, Pharmacy Store manager and Dispensing Units) **Purpose:** To record pharmaceuticals received To record pharmaceuticals issued To record changes in stock balances

To track supplies moved through non-routine methods (e.g., local purchase, transfers)
To track losses/adjustments
To record expiry dates
When To Perform: When pharmaceuticals are received or issued
When pharmaceuticals are transferred to another facility
When pharmaceuticals are transferred in from another facility
When pharmaceuticals are removed from the storage area for reasons other than for use in health services (e.g., for demonstrations, expiration, damage)
At the end of the month when physical counts are conducted at the Health Post; every other month at the Health Centers and Hospitals
Materials Needed: Bin Cards, pen, pencil (for AMC only)
Note: See the job aid on conducting a physical count for specific instructions for completing the Bin Card during the physical count.

Step	Action	Notes
1.	Complete one Bin Card for each pharmaceutical you manage.	For example, each of the following items should have a separate Bin Card: Glove, latex disposable, large, 100 pieces Glove, latex disposable, medium, 100 pieces Glove, latex disposable, small, 100 pieces
2.	Enter only one transaction on each line.	
IF ⇒□	THEN	
Opening a new Bin Card	Continue with Step 3.	
Entering a transaction	Skip to Step 10.	
Steps 3 – 10: Opening a NEW Bin Card		
3.	**Name of Health Facility:** Write the	

	name of the health facility where the product is being managed.	
4.	**Product Name, Strength and Dosage Form:** Enter the name, pack size, form or presentation of the pharmaceutical.	Examples: Amoxicillin, 250 mg, Capsule RHZE/RH - (150mg +75mg + 400mg + 275mg/150mg +75mg) – tablet
5.	**Unit of Issue:** Use PFSA unit of Issue and Use kit as unit of issue for products coming in individual patient kit form e.g. TB kit.	Example: PK of 64 for implanon, PK of 30 cycles for microgynon The unit recorded at the top of the Bin Card is the same unit that is used to record transactions on the card.

6.	**Maximum Stock Level:** Write —4 monthsǁ. For Health Post : Leave it empty For Dispensing Unit : 2 x reporting interval	For health centres and hospitals, the maximum has been set at 4 months of stock.
7.	**Emergency Order Point:** Write —0.5 monthsǁ. For Health Post : Leave it empty	For health centres and hospitals, the Emergency Order Point has been set at 0.5 months (= 2 weeks of stock).
8.	**Average Monthly Consumption (AMC):** Take 3 months average of monthly Internal Issues from the Bin Card (BC).	
9.	Write the product group	

	(Program Vs Purchased)	
10.	**Record the opening balance at the time the Bin Card is opened.** If this is the first line of a new Bin Card for an existing product, write the date, write —Balance Brought Forward‖ under the received column, and record the ending balance from the old Bin Card under the balance column. If this is the first line of a new Bin Card for a new product, conduct and record a physical count and record the results of the physical inventory on the first line of the Bin Card.	Example: —Balance Brought Forward‖. For recording a physical count, refer to the Job Aid Conducting a Physical Count in Chapter VIII.
If you do not have a transaction to record, you are finished with this part of the task. If you have a transaction to record, continue with Step 11 below.		
STEPS 11 – 22: Recording Stock Transactions		

11.	**Date:** Enter the date of the transaction.	Example: 01/09/05
12.	**Document No. (Receiving or Issuing):**	Example: 736529

	Write the pre-printed number from the issue (Model 22) or receipt voucher (Model 19) that was used to document the receipt or issue of the pharmaceuticals.	
13.	**Received From or Issued To:** If receiving products, enter the name of the facility from which the item was received. If issuing at a health post, write ―dispensed to patients‖. If issuing within a health centre or hospital, or if issuing from a health centre to a health post, write the name of the dispensing unit or health post to which the pharmaceuticals are being issued. If a physical count was conducted, write ―Physical Count‖. If a positive adjustment (such as a transfer in) is being recorded, note from what facility products are being received.	Example: PFSA
14.	**Quantity/Received:** Enter the exact amount of the product received on this date.	The quantity should be written in terms of units of issue, the units noted at the top of the card, for example, bottle. Stock transferred from one facility to another should be recorded as an adjustment (see Step 16 for information on entering adjustments). Therefore, the only quantities entered in the Quantity/Received

		column should be those quantities received from the health centre (at the health post) or from PFSA (at the health centre or hospital).
15.	**Quantity/Issued:** Record the number of units issued as indicated: At the health post, write the total quantity of the product that was given to clients during the day. At the health centre and hospital, write the quantity of the product each time the product is issued to dispensing unit and health post. At the dispensing units • Write the quantity of the product in the pack each time the package is opened or brought to the dispensing area from the shelf, or • Write the quantity of the product after counting and calculating for each product at the end of each reporting period. That is, Quantity Issued = Balance at the beginning of the reporting interval + Quantity Received +/- Loss/Adjustment – Ending Balance (Mostly applied for bottles and tubes), or • Write the quantity of the product after adding total quantities from tick or tally	

	sheet at the end of the day For products coming in individual patient kit form like TB kit, record the quantity of opened kits at the end of the day

16.	**Quantity/Loss/Adj.:** Enter the exact amount of losses or adjustments to the inventory on this date. Explain any losses or adjustments in the —Remarks‖ column (see Step 20).	**Losses** are quantities removed from your stock for anything other than issuing to patients or another unit in the facility (e.g. expired, lost, stolen, or damaged). Losses are recorded as (-) negative numbers. **Adjustments** are quantities of a pharmaceuticals received from any source other than the regular source, that is, health centre (for health posts) or PFSA (for health centres and hospitals), or issued to anyone other than within your facility. Always use a (+) sign to indicate positive adjustments, and a (-) sign to indicate negative adjustments. Adjustments may also be made to correct mathematical mistakes previously made in recording. Be sure to indicate if the adjustment was negative or positive and note the reason for the adjustment in the

		—Remarks‖ column. **For TB kits at TB clinic** - Newly reconstituted kits from the supply box at the end of the reporting period will be recorded as positive adjustment
17.	**Quantity/Balance:** If receiving products: Add the —Quantity Received‖ to the Balance from the previous row and then enter the new balance. If issuing products: Subtract the —Quantity Issued‖ from the Balance from the previous row and then enter the new balance. If recording a loss or adjustment: Add (if +ve adjustment) or subtract (if -ve adjustment) the loss or adjustment quantity to the Balance from the previous row and then enter the new Balance.	

18.	**Batch Number:** At the health post: Leave this column blank. At the health centre or hospital: Write the batch number of the pharmaceuticals received or issued.	If the pharmaceuticals received or issued have more than one batch number, use a separate row for each batch number and indicate the quantity received or issued for each batch number.
19.	**Expiry Date:** At the health post: Leave this column	If the pharmaceuticals received or issued

	blank. At the health centre or hospital: Write the expiry date of the pharmaceuticals received or issued.	have more than one expiry date, use a separate row for each expiry date and indicate the quantity received or issued for each expiry date. Each expiry date should match with the corresponding batch number. For kits, write expiry date of product with shortest expiry as an expiry date of the whole kit
20.	**Remarks:** Provide a brief explanation for any loss/adjustment or add any other comments as needed.	Examples: Damaged product. Purchase from local pharmacy. Correction of mathematical error.
21.	If you have filled the last line of the front of the Bin Card…. If you have filled the last line of the back of the Bin Card…	Turn to the back of the card and write —Balance Broughtll Forward in the —Received Fromll column and carry the balance from the front of the card and write it in the —Balancell column of the back of the card. You will need to start a new Bin Card. Go to Step 3.
22.	Keep the Bin Card close to where pharmaceuticals are being stored and issued	

The task is complete when:
A separate *Bin Card* has been completed for each pharmaceutical managed in the store. The Name of Health Facility, Product Name, Strength and Dosage Form, Unit of Issue,

Maximum Stock Level, Emergency Order Point and Average Monthly Consumption (AMC) have been written at the top of the *Bin Card*. Each transaction is recorded on the *Bin Card* as it occurs. The *Bin Card* is kept close to where the pharmaceuticals are stored and issued.

2.1.2 Maintaining the Stock Record Card

The following job aid describes the procedures for maintaining Stock Record Cards for pharmaceuticals at the Health Centre and Hospital. Note: The Stock Record Card is not used at the Health Post. One Stock Record Card should be maintained for each pack size, form or presentation of each pharmaceutical.

JOB AID: Recording Transactions in the Stock Record Card
Task: Recording Transactions in the Stock Record Card
Completed by: Pharmacist, Pharmacy Technician or health staff in charge of pharmaceuticals

Purpose:

1. To record pharmaceuticals received
2. To record pharmaceuticals issued
3. To record changes in stock balances
4. To track pharmaceuticals moved through non-routine methods (e.g., local purchase, transfers)
5. To track losses/adjustments
6. To record expiry dates

When To Perform:

1. When pharmaceuticals are received or issued
2. When pharmaceuticals are transferred to another facility
3. When pharmaceuticals are transferred in from another facility
4. When pharmaceuticals are removed from the storage area for reasons other than for use in health services (e.g., for demonstrations, expiration, damage)

   At the end of every other month when physical counts are conducted

Materials Needed: Stock Record Cards, pen, pencil (for AMC only)

Note: See the job aid on conducting a physical count for specific instructions for completing the Stock Record Card during the physical count.

Step	Action	Notes
1.	Complete one Stock Record Card for each pharmaceutical you store.	For example, each of the following should have a separate Stock Record Card: •□Glove, latex disposable, large, 100 pieces •□Glove, latex disposable, medium, 100 pieces •□Glove, latex disposable, small, 100 pieces
2.	Enter only one transaction on each line.	
IF ⇒□	THEN	
Opening a new Stock Record Card	Continue with Step 3.	
Entering a transaction	Skip to Step 12.	
Steps 3 – 11: Opening a NEW Stock Record Card		
3.	**Name of Health Facility:** Write the name of the facility where the product is being managed.	
4.	**Product Name, Strength and Dosage Form:** Enter the name, pack size, form or presentation of the pharmaceutical.	Examples: RHZE/RH - (150mg +75mg + 400mg + 275mg/150mg +75mg) – tablet
5.	**Unit of Issue:** Use PFSA unit of Issue and	Example: PK of 64 sets for implanon, PK of 30

	Use kit as unit of issue for products coming in individual patient kit form e.g. TB kit.	cycles for microgynon Be sure to note that the unit recorded at the top of the Stock Record Card is that which is used to record transactions on the card.
6.	**Location:** Write the location where the product is stored.	Examples: Storeroom, refrigerator, shelf number 11
7.	**Maximum Stock Level:** Write —4 months‖.	For health centres and hospitals, the maximum has been set at 4 months of stock.
8.	**Emergency Order Point:** Write —0.5 months‖.	For health centres and hospitals, the Emergency Order Point has been set at 0.5 months (= 2 weeks of stock)
9.	**Average Monthly Consumption (AMC):** Take 3 month average of monthly Internal Issues from the Stock Record Card (SRC).	
10.	Write the product group (Program Vs Purchased)	
11.	**Record the opening balance at the time the Stock Record Card is opened.** • If this is the first line of a new Stock Record Card for an existing product,	Example: —Balance Brought Forward‖. For recording a physical count, refer to the Job Aid Conducting a Physical Count in Chapter VIII.

	write —Balance Brought Forward‖ on the first line of the Stock Record Card and continue with Step 16 in this Job Aid. If this is the first line of a new Stock Record Card for a new product, conduct and record a physical count and record the results of the Physical Inventory on the first line of the Stock Record Card.	
STEPS 12 – 23: Recording Stock Transactions		
12.	**Date:** Enter the date of the transaction.	Example: 01/08/2005
13.	**Document No. (Receiving or Issuing):** Write the pre-printed number from the issue (Model 22) or receipt voucher (Model 19) that was used to document the receipt or issue of the pharmaceuticals.	Example: 736529
14.	**Received from or Issued to:** •□If receiving products, write the name of the facility from which the item was received. •□If issuing within a	Example: —PFSA‖ Example: TB clinic For recording a physical count, refer to the Job Aid Conducting a Physical Count in Chapter VIII.

	facility or to a health post, write the name of the dispensing unit or health post to which the pharmaceuticals are being issued. If a physical count was conducted, write —Physical Countll. If a positive adjustment (such as a transfer in) is being recorded, note from what facility products are being received.	Note: Positive adjustment for pharmaceuticals received from any source other than PFSA

15.	**Quantity/Received:** Enter the exact amount of the product received on this date.	The quantity should be written in terms of units of issue, for example, bottles. The only quantities entered in this column should be those quantities received from PFSA. Stock transferred from one facility to another should be recorded as an adjustment (see step 17 for information on entering adjustments).
16.	**Quantity/Issued:** Record the number of units of the commodity issued on this date. At the health centre and hospital, write the quantity of the product each time the product is issued to a health worker or unit	Issuing in a facility may include issuing to the health post and dispensing unit (ART clinic, or other areas) in the facility.

	(ward, clinic, dispensary, Health Post).	
17.	**Quantity/Loss/Adj.:** Enter the exact amount of losses or adjustments to the inventory on this date. Explain any losses or adjustments in the ―Remarks‖ column (See Step 21).	**Losses** are quantities removed from your stock for anything other than issuing to another unit in the facility (e.g. expired, lost, stolen, or damaged). Losses are recorded as (-) negative numbers. **Adjustments** are quantities of pharmaceuticals received from any source other than PFSA, or issued to anyone other than within your facility. Always use a (+) sign to indicate positive adjustments, and a (-) sign to indicate negative adjustments. Adjustments may also be made to correct mathematical mistakes previously made in recording. Be sure to indicate if the adjustment was negative or positive and note the reason for the adjustment in the ―Remarks‖ column

18.	**Quantity/Balance:** If receiving products: Add the ―Quantity Received‖ to the Balance from the previous row and then write the new balance. If issuing products: Subtract the ―Quantity	The balance should show only the quantities of usable stock. Any unusable stock should have been removed from inventory and an adjustment made on the Stock Record Card.

	Issued‖ from the Balance from the previous row and then write the new balance. If recording a —Balance Brought Forward‖: Record the balance from the previous Stock Record Card. If recording a loss or adjustment: Add or subtract the loss or adjustment quantity to the Balance from the previous row and then write the new Balance.	
19.	**Unit Price/Birr/Cent:** If receiving products, write the unit price of the product received.	The unit price is indicated on the invoice received from PFSA. Only fill in the Unit Price when receiving products. Do not fill in the Unit Price when issuing, conducting a physical count or at any other time.
20.	**Expiry Date:** Write the expiry date of the pharmaceuticals received or issued.	If the pharmaceuticals received or issued have more than one expiry date, use a separate row for each expiry date and indicate the quantity received or issued for each expiry date. For kits, write expiry date of product with shortest expiry as an expiry date of the whole kit
21.	**Remarks:** Provide a brief explanation for any loss/adjustment or add any other comments as needed.	Example: lost, damaged ,expired
22.	If you have filled the last line of the front of	Turn to the back of the card and write —Balance Brought Forward‖ in the

	the Stock Record Card…. If you have filled the last line of the back of the Stock Record Card…	—Received Fromǁ column and carry the balance from the front of the card and write it in the —Balanceǁ column of the back of the card. Start a new Stock Record Card. Go to Step 3.
23.	**Keep the Stock Record Card in the Pharmacy Manager's office.**	

The task is complete when:
❑A separate Stock Record Card has been completed for each pharmaceutical managed in the store. ❑The Name of Health Facility, Product Name, Strength and Dosage Form, Unit of Issue, Location, Program (purchased or free), Maximum Stock Level, Emergency order point and average Monthly consumption have been written at the top of the Stock Record Card. ❑Each transaction is recorded on the Stock Record Card as it occurs. ❑The Stock Record Card is kept in the pharmacy head's office.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. **Choose the answer from the following**

1. **Bin card is preformed**
A. When pharmaceuticals are received or issued
B. When pharmaceuticals are transferred to another facility
C. When pharmaceuticals are transferred in from another facility
D. When pharmaceuticals are removed from the storage area
E. all
2. What is the Purpose of stock card?
A. To record pharmaceuticals received
B. To record pharmaceuticals issued
C. To record changes in stock balances
D. To track losses/adjustments
E. all
3. All of the followings are the period to Perform stock record card except:
A. When pharmaceuticals are received or issued
B. When pharmaceuticals are transferred to another facility
C. When pharmaceuticals are transferred in from another facility
D. When pharmaceuticals are removed from the storage area for reasons other than for use in health
E. None

Note: **Satisfactory rating -3 points** **Unsatisfactory - below 3 points**

Answer Sheet

1. _____
2. _____
3. _____

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Transaction records

3.1 Transaction records Record transaction

Drug transaction should be recorded and kept for future data use. Recording system could be:

A. Bin card
B. Stock card
C. Vertical file card
D. Ledger system

A physical count (also called *Physical Inventory*) is an actual count of the quantity of each supply at any given time. It is one of the most frequent pharmaceuticals management activities in health facilities. A physical count of pharmaceuticals in the storeroom ONLY should be conducted cyclical or annually and the *Bin Cards* and *Stock Record Cards* should be updated. A physical count of the products in the storeroom is done to verify that the stock balance found on the *Bin Card* and the *Stock Record Card* shows the correct number of usable pharmaceuticals that are available in the storeroom.

If the quantity on the *Bin Card* or the *Stock Record Card* does not match the quantity on the shelf, the *Bin Card* and the *Stock Record Card* should be updated and an adjustment should be entered. Instructions on how to complete a physical count of the storeroom and make adjustments to the *Bin Card* and the *Stock Record Card* are provided in the Job Aid below

.

JOB AID: Conducting a Physical Count

Task: Conducting a Physical Count

Completed by: Pharmacist or Pharmacy Technician

Purpose:

1. To verify the stock level of pharmaceuticals **in the store** at the time of physical count
2. To detect errors in drug management records
3. To detect drug loss in the store

When to perform:

I. At least every quarter at the Health Post level
II. At least every 6 months at the Health Centre/Hospital level
III. Any time you suspect that products have been lost

Materials needed:

Bin Cards, *Stock Record Cards*, calculator, pen

Self-Check -3	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I write true if the statement is correct and false if the statement is incorrect

1. Drug transaction should be recorded and kept for future data use.

III. Choose the answer from the following

1. Recording system could be:

A. Bin card

B. Stock card

C. Vertical file card

D. ALL

Note: **Satisfactory rating -2 points** **Unsatisfactory - below 2 points**

Answer Sheet

1. _____
2. _____

Name: _____

Score = _____

Rating: _____

Date: _____

Information Sheet-4	Consumption records

4.1 Consumption records

A routine mechanism is required to enable ongoing analysis of medicine utilization and expenditure. This is best served by establishing a dedicated unit for analysis of medicine use within the agency responsible for the program that supports access to medicines. Data sources A number of different types of data can be used in analyses of medicine utilization and expenditure. The data sources are divided into aggregated data and patient-level data.

Aggregated data sets are those where the data are compiled as a summary statistic. For example, the number of units of stock of a medicine purchased each month or each year. Aggregated data do not include information on the provision of medicines to an individual person. Patient-level data are those where information on individual patients is available

SOURCES OF DATA ON MEDICINE UTILIZATION

I. Sales or procurement data

Description:

- ✓ Data on the sale or purchase of pharmaceutical products by relevant businesses or organizations. Potential data sources:
- ✓ pharmaceutical import records from pharmaceutical regulatory agencies or custom offices, medicine production records from local manufacturers,
- ✓ Sales records from manufacturers or wholesalers, procurement records from hospitals, procurement records from pharmacies or other medicines outlets.

Information usually available:

A. name of medicine, dosage form, strength,

B. Quantity (sales units), cost (ex-manufacturer, ex-wholesaler).

B. Dispensing data

Description:

- ✓ Data on licensed medicines supplied to a patient by a dispensing officer (pharmacist or a doctor in a dispensing practice).

Potential data sources:

- ✓ Pharmacies, medicine outlets or doctor dispensing practice records (electronic or manual form).
- ✓ Where reimbursement of dispensing occurs, centralized data might be held by the payer (i.e. private insurer or government).

Information usually available:

A. patient identifier, name of medicine dispensed,
B. dosage form, strength, quantity of medicines dispensed,
C. Cost of each medicine dispensed.

C. Health claims data

Description:

A. Health claims data for medicines that are subsidized or reimbursed by the government or private insurers.

Potential data sources:

I. Data held in either electronic or paper form by insurers or agencies subsidizing medicine costs; insurers may be private health insurance companies or government agencies.

Information usually available:

- ✓ name of medicine, dosage form,
- ✓ strength, quantity of medicine dispensed,
- ✓ Cost of each medicine dispensed.

D**. Prescribing data**

Description:

- ✓ Data on licensed medicines prescribed by a health care professional.

Potential data sources:

- ✓ health professionals' records, databases of electronic medical records of outpatient or inpatient prescriptions

Information usually available:

A. patient identifier, patient demographics (e.g. age, gender),
B. name of the medicine prescribed, dosage form,
C. strength, dose prescribed,
D. frequency of administration,
E. reasons for prescribing (i.e. specific problem or condition),
F. Type of prescriber (e.g. medical specialist, general practitioner).

E. Community or household survey data

Description:

- ✓ Cross-sectional health surveys containing questions on the use of medicines.

Potential data sources:

- ✓ national or provincial health surveys,
- ✓ Health surveys by research groups.

Information usually available:

A. name of medicine, dosage form,
B. strength, dose used,
C. frequency of administration,
D. Duration of use, reason for use.

F. Commercial medicine utilization data

Description:

I. Commercial companies may collect information on sales from manufacturers and wholesalers, and prescription or dispensing data from medical practitioners, community pharmacies or hospitals.

Potential data sources:

- ✓ IMS health

Information usually available: name of medicine, dosage form, strength,

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Write true if the statement is correct and false if the statement is incorrect

1. A routine mechanism is required to enable ongoing analysis of medicine utilization and expenditure.
2. Patient-level data are those where information on individual patients is available.
3. Aggregated data includes information on the provision of medicines to an individual person.

II. **Choose the best answer from the following**

1. Health claims Information usually available:

A. name of medicine, dosage form,
B. strength, quantity of medicine dispensed,
C. cost of each medicine dispensed.
D. all

Note: **Satisfactory rating -4 points** **Unsatisfactory - below 4 points**

Answer Sheet

1. _____
2. _____
3. _____
4_____

Score = _____

Rating: _____

Name: _____

Date: _____

Information Sheet-5	Reporting system

5.1 Reporting system

I. Internal Facility Report and Resupply Form (IFRR)

It is recommended that products be issued to the dispensing units on a weekly, every two week or monthly basis.

Step in IFRR Steps 1 – 10 should be completed by the Dispensing Unit before going to the Pharmacy Store according to the agreed schedule.

1 Name of Dispensing Unit: Write the name of the Dispensing Unit Example: MCH/Family Planning

2 Reporting Period From: -- To ---Write the first and last date of the reporting period covered by this IFR. Example From: Tikimt 1, 2010 to Tikimt 7, 2010
The reporting period should be the same as your scheduled re-supply interval (weekly, bi-weekly).

3 Maximum Level (ML): Write in the maximum level for the dispensing unit (2 X Reporting Interval) in weeks The Maximum Level is based on how often you receive products from the pharmacy store.
Examples: If you receive products from the pharmacy store every week, write (1 week) X 2.. If you receive products from the pharmacy store every two weeks, write (2 weeks) X 2.

4 Serial Number (pre-printed): The serial number of the product on the form.
Example: 1, 2, 3,

5 Item: Write the name and description of each pharmaceutical you are reporting on or use the pre-printed IFRR if any.
Example: Amoxicillin 250 mg tablets

6 Beginning Balance (A): Write in the quantity of stock you had

available at the beginning of this reporting period. This information is on the Bin Card; it is the quantity of product you started with.

7 Quantity Received (B): Write the quantity of the item received during this reporting period. This information is the sum of the quantities found in the 'Received' column of the Bin Card for the dates during the current reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit). Conversion formula= Quantity in Basic Unit (BU)/Number of Units in default pack

8 Losses/Adjustments (C): Write the total quantity of the item lost or adjusted during this reporting period. This information is the sum of the quantities found in the 'Losses/Adjustments'‖ column of the Bin Card for the dates during the current reporting period. Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit): Quantity in Basic Unit (BU) / Number of Units in default pack Write any remarks related to the loss/adjustment in the Remarks section.

9 Ending Balance (D): Write in the quantity of stock that you have on hand at the end of the reporting period. Conduct a physical count to determine the Stock on Hand.

- ✓ Stock on Hand can also be found on the Bin Card, if the Bin Card is up-to-date.
- ✓ Convert other units to the default unit using the following formula

10. Remarks: Write any remarks related to the product or any explanation related to losses and adjustments that you have reported. (Write the serial number in the list and reason for loss or adjustment)

- ✓ Remarks on losses and adjustments should be found on the Bin Card.

11 Reported by/Signature/Date: Write your name, sign and date the form. Steps 12 – 17 are completed by Pharmacy Store.

12 Calculated Consumption (E):

Calculate the estimated quantity consumed:

- ✓ Beginning Balance plus Quantity Received plus/minus Loss/Adjustment minus Ending Balance.

A + B +/– C - D= E

- ✓ If DU was stocked out in the reporting interval, the pharmacy store manager should use Calculated Consumption in the last reporting intervals to calculate

the resupply quantity.

Example 1: If Beginning Balance (A): 50; Quantity Received (B): 35; Borrowed from other Dispensing unit (C): 10 and Ending Balance (D): 12 E= A +B+/– C - D= 50 +35 +10 - 12 = 83

Calculated Consumption = 83

Example 2: If Beginning Balance (A): 70; Quantity Received (B): 30; Expired Product (C): -5 and Ending Balance (D): 25 E = A + B +/- C -D = 70 +30 – 5 - 25 = 70 Calculated Consumption = 70

13 . Maximum Quantity (F): Multiply calculated consumption by 2.

F = E X 2

To calculate the maximum quantity, multiply the calculated consumption by 2.

Example: Calculated Consumption = 70 F= 70 X 2 = 140 Maximum Quantity = 140

14 Quantity Needed to Reach Max. (G): Write in the quantity of the product that is needed to reach the maximum stock level.

From the Maximum Quantity subtract the Stock on Hand (Ending Balance),

G=F- D

Example: If Maximum Quantity = 140 and Ending Balance = 12 G = 140 – 12 = 128

- ✓ Quantity Needed to Reach Max. = 128
- ✓ If the Quantity Needed to Reach Max. Is negative, write ‘0’ (zero); No re-supply is needed.

15 . Quantity Supplied (H): Write in the quantity of products supplied to the unit.

- ✓ If no products were needed, write ‘0’ (zero) and do not re-supply that product.

16 Update the Bin Card and the Stock Record Card for the product you have issued.

17 Completed/Signature/Date:

The person issuing (completing the ‘Completed by Store’ section) writes name and sign and date the form.

- ✓ The person issuing the product should also fill and sign Model 22.

18 Approved by/Signature/Date:

A. The person approving the issue writes his or her name and signs and dates the form

II. Completing the Report and Requisition Form

B. Much of the information needed to complete the RRF is obtained from the Bin Card/Stock Record Card; Be sure that the Bin Card/Stock Record Cards are up-to-date and that they include the most recent physical count.

STEP OF RRF

1 Health Facility/Woreda/Region:

Write the location of the health facility (Health Centre or Hospital).

Example: [Region: Amhara], [Woreda: Gozamin], [Health facility :Debremaros Hospital]

2 . Current Reporting Period: From: … To:

Write the first and last day of the reporting period (In Ethiopian Calendar).

Example: Ginbot 1, 2009 – Sene 30, 2009.

3 Serial Number (S/No.) (Pre-printed): The serial number of the product on the form. Example: 1, 2, 3,

4 . Product (pre-printed):

The name and description (Strength, Dosage Form and Minimum Unit of Issue) of each pharmaceutical is pre-printed on the form .If not pre-printed write those descriptions on the blank form Write the product name and description.

5. Unit of Issue (pre-printed):

The unit of issue for each pharmaceutical is pre-printed on the form.

If note pre-printed write those descriptions on the blank form

If reporting on and ordering items that are not listed, write the unit of issue, if it is known, next to the item description written in Step 5.

6. Beginning Balance (Column A):

Write the balance of the item at the beginning of the reporting period.

The Beginning Balance for the current report is equal to the Ending Balance of the previous report. This information can be found on the Report and Requisition Form from the previous reporting period. If this is the first RRF, This information can be found on the Bin Card/Stock Record Card. Convert other units to the

default unit using the following formula (except for products coming in individual patient kit form like TB kit): Number of Units in the pack X Quantity on the Bin Card /Number of Units in standard pack

7. **Quantity Received (Column B):** Write the quantity of the item received during this reporting period.
   This information is the sum of the quantities found in the 'Received' column of the Bin Card/Stock Record Card for the dates during the current reporting period.
   Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit)

8. **Losses/Adjustments (Column C):** Write the total quantity of the item lost or adjusted during this reporting period. This information is the sum of the quantities found in the 'Losses/Adjustments' column of the Bin Card/Stock Record Card for the dates during the current reporting period.

- ✓ Convert other units to the default unit using the following formula (except for products coming in individual patient kit form like TB kit):
  Write any remarks related to the loss/adjustment in the Remarks section; see Step 17.

9. Ending Balance in DUs (Column D):

Write the ending balance or Stock On Hand quantity of the item at the end of the reporting period in the dispensing units. The Ending Balance (D) is the ending balance from the latest IFRR reports from DUs The Ending Balance should also equal the results of the physical count of the item at the dispensing units or the bin card at the end of DU reporting period. Convert other units to the default unit using the following formula

10. Ending Balance Store (Column E): Write the ending balance or Stock On Hand quantity of the item at the end of the reporting period in the store room. The Ending Balance (E) is the balance on the Bin Card on the last date of the reporting period.
The Ending Balance should also equal the results of the physical count of the item.

- ✓ Convert other units to the default unit

11. Calculated Consumption (Column F): Calculate the total amount of pharmaceuticals Issued out of the Pharmacy Store using the beginning balance in the store, Quantity Received, Loss/Adjustment and Ending balance in the store.

$$F = A + B + C - D - E$$

This is also the same as the sum of issues in the bin card for the reporting period

12. Days Out of Stock (Column G): The total number of day a product was out of stock at facility Count the number of days of Stock Out from the Bin Card or IFRR

13. Maximum Stock Quantity (Column H): Calculate and write the maximum stock quantity **for program RRF using the formula H= 120 F/ (60 – G).**
For malaria pharmaceuticals using he formula H = (120 F/ (60 – G))*LSI

- ✓ For program pharmaceuticals the maximum quantity is calculated after multiplying CC adjusted for DOS by 2 (4 MOS).
- ✓ LSI- Look ahead seasonality indices or adjustments factors are used due to seasonality and demand variability, using the previous calculated consumption to resupply would lead to Stock out, under or overstock
  Each resupply period will have its own index to adjust historical consumption.

14. Quantity Ordered (Column I): Calculate and write the quantity needed to reach max by subtracting the ending balance in the store from the maximum stock quantity using the formula I= H- D-E
I (Quantity Ordered) = H (Maximum Stock Quantity) – D (Ending Balance in DU) - E (Ending Balance in store)
If the calculated quantity is a zero or a negative number then no additional stock is required. Write 0 in the 'Quantity Ordered' column.

15. Products with shelf life < 6 months:

- ✓ Write the serial number in the list, quantity and expiry dates of pharmaceuticals with shelf life less than or equal to 6 months**.**

16. Remarks:

A. Write any remarks related to the product or any explanation related to losses and adjustments that you have reported.
A. Write the serial number in the list, quantity and reason for loss and/or adjustment
B. Remarks on losses and adjustments should be found on the Bin Card.

17. Completed by/ Name/Signature/Date:

- ✓ The person (Store Manager) completing the Report and Requisition parts should write and sign his or her name, and write the date on which he or she has completed these sections of the form.

18. Verified by/ Name/Signature/Date:

- ✓ The Head of the Pharmacy Section should write and sign his or her name, and write the date on which he or she has reviewed the form.

19 Approved by/Name/Signature/Date:

The Head of the facility should write and sign his or her name, and write the date on which he or she has reviewed the form.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided below

I. Write true if the statement is correct and false if the statement is incorrect

1. IFRR Is recommended that products be issued to the dispensing units on a weekly, every two week or monthly basis.
2. On RRF Much of the information needed to complete the RRF is obtained from the Bin Card/Stock Record Card; .

II. Choose the best answer from the following

1. Which one of the following is part of IFRR?
   A. Name of Dispensing Unit:
   B. Reporting Period From:
   C. Maximum Level (ML):
   D. ALL

2. One of the following is not part of RRF
   A. Loss/adjustment
   B. Ending balance
   C. Remark
   D. . none

Note: **Satisfactory rating -4 points** **Unsatisfactory - below 4 points**

Answer Sheet

1 _____
2 _____
3 _____
4 _____

Name: _____

Date_____

Score = _____

Rating: _____

Operation sheet#1	Techniques of reporting by health posts

Steps of reporting

1. Write the name. of the Health Post for which the report is being completed
2. Write the name of the Health Centre from which you will receive your products.
3. Write the starting month, day and year and the ending month, day and year that covers the reporting period.
4. The Maximum Stock Level for the Health Post
5. The serial number of the product on the form
6. The name and description of each pharmaceutical.
7. The unit for each pharmaceutical.
8. Write in the quantity of stock you had available at the beginning of this reporting period
9. Write the quantity of the item received during this reporting period
10. Write the total quantity of the item lost or adjusted during this reporting period.
11. Write the quantity of the product on hand at the end.
12. Write any remarks related to the product or any explanation related to losses and adjustments that you have
13. Write your name, sign the report and write the date on which the report was completed

LAP Test	Practical demonstration

Name: _____ Date: _____

Started Time:_____ Finished Time:_____

Instructions:

You expected to perform the following activity within given time per activity

Task1: Completing the Report and Requisition Form

Purpose: To report on pharmaceuticals used and stocks available
To order pharmaceuticals

Materials needed: Blank ***Report and Requisition Form,*** the ***Report and Requisition Form*** from the previous reporting period***, Stock Record Cards/Bin Cards*** for all pharmaceuticals**,** pen, and calculator

Operation sheet#2	Techniques of Reporting and ordering by Hospitals and Health Centers

Steps of reporting

1. Write the location of the health facility (Health Centre or Hospital).
2. Write the first and last day of the reporting period (In Ethiopian Calendar)
3. Write the serial number of the product on the form
4. The name and description (Strength, Dosage Form and Minimum Unit of Issue) of each pharmaceutical is pre-printed on the form
5. The unit of issue for each pharmaceutical is pre-printed on the form
6. Write the balance of the item at the beginning of the reporting period.
7. Write the quantity of the item received during this reporting period.
8. Write the total quantity of the item lost or adjusted during this reporting period.
9. Write the ending balance or Stock On Hand quantity of the item at the end of the reporting period in the dispensing units
10. Write the ending balance or Stock On Hand reporting period in the store room
11. Calculate the total amount of pharmaceuticals Issued out of the Pharmacy Store using the beginning balance in the store, Quantity Received, Loss/Adjustment and Ending balance in the store.
12. The total number of day a product was out of stock at facility
13. Calculate and write the maximum stock quantity
14. Calculate and write the quantity needed to reach max by subtracting the ending balance in the store from the maximum stock quantity
15. Write the serial number in the list, quantity and expiry dates of pharmaceuticals with shelf life less than or equal to 6 months.
16. Write any remarks related to the product or any explanation related to losses and adjustments that you have reported.
17. The person (Store Manager) completing the Report and Requisition parts should write and sign his or her name, and write the date on which he or she has completed these sections of the form
18. The Head of the Pharmacy Section should write and sign his or her name, and write the date on which he or she has reviewed the form

19. The Head of the facility should write and sign his or her name, and write the date on which he or she has reviewed the form

LAP Test	Practical demonstration

Name: _____ Date:_____

Started Time:_____ Finished Time:_____

Instructions:

You expected to perform the following activity within given time per activity

Task1: Completing the Report and Requisition Form

Purpose: To report on pharmaceuticals used and stocks available
To order pharmaceuticals

Materials needed: Blank ***Report and Requisition Form,*** the ***Report and Requisition Form*** from the previous reporting period***, Stock Record Cards/Bin Cards*** for all pharmaceuticals**,** pen, and calculator

Operation sheet#3	Techniques of Placing an Emergency Order

Steps of reporting

1. Write the Name of the Health Post for which the
2. Write the name of the Health Centre from which you will receive your products.
3. Write the starting month, day and year and the ending month, day and year that covers the reporting period.
4. The Maximum Stock Level for the Health Post.
5. The serial number of the product on the form
6. The name and description of pharmaceuticals.
7. The unit for pharmaceuticals.
8. Write in the quantity of stock you had available at the beginning of this reporting period.
9. Write the quantity of the item received during this reporting period.
10. Write the total quantity of the item lost or adjusted during this reporting period.
11. Write the quantity of the product on hand when about to place emergency order.
12. **Write the words "Emergency Order" at the top of the Report**
13. Write the reason for the emergency.
14. Leave all columns in this section blank The store manager at the supplying
15. Write your name, sign the report and write the date on which the report was completed.

LAP Test	Practical demonstration

Name: _____ Date: _____

Started Time: _____ Finished Time:_____

Instructions:

You expected to perform the following activity within given time per activity

1. Task1: **Task:** Placing an Emergency Order (Health Post to Health Centre)
   Purpose: To place an emergency order for any product which goes equal to or below 1 week (0.25 months) of stock?
   To avoid a stock out of a pharmaceuticals

Materials needed: Blank *Health Post Monthly Report and Re-supply Form*, *Bin Card(s),* calculator, pen

The trainers who developed the learning guide

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