Guidelines for District and Service Outlet Managers

On

Logistic Management of Contraceptives

Participants' Manual

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ACRONYMS.

BHU	Basic Health Unit
CMIPHC	Chief Minister's Initiative for Primary Health Care.
CoC	Combined oral Contraceptive pill
CW&S	Central Ware House & Supplies
CYP	Couple Year Protection
DHO	District Health Officer
DPWO	District Population Welfare Officer
EDO (H)	Executive District Officer Health
FEFO	First expiry First Out
FIFO	First In First Out
FLCF	First Level Care Facility
FP	Family Planning
FWC	Family Welfare Center
IRV	Issue/Received Voucher
IUCD	Intra Uterine Contraceptive Device
LHV	Lady Health Visitor
LHW	Lady Health Worker
MNCH	Maternal, Neonatal & Child Health Program
MoPW	Ministry of Population Welfare
MSU	Mobile Service Units.
NGO	Non Governmental Organization.
PoP	Progestrone only pill
PPHI	Peoples Primary Health Care Initiative(
PWD	Population Welfare Department
RHS	Reproductive Health Centers
SDP	Service Delivery Point
SK	Store Keeper
TCH	Tertiary Care Hospitals.

Section-1- Introduction to Logistics

Introduction to Logistics

Overview:

Logistics is a branch of supply chain management, which deals with making the commodities available to a group of people or consumers. Logistics system covers all the activities which take place between manufacturer of the product and the point at which the products are supplied to the end user or consumer. A logistics cycle consists of the following steps:

Table 1.1: Basic Steps

STEP 1: Select contraceptives (both the methods and brands to be used).
STEP 2: Estimate quantities to be procured.
STEP 3: Identify sources and procure contraceptives
STEP 4: Develop a logistics management information system (LMIS) to record contraceptive distribution and client use.
STEP 5: Develop procedures to efficiently manage contraceptive inventories.

Supply needs are usually based on estimates of the population to be served. The organization estimates supply needs for the target population, identifies a source of supply and then plans appropriate management, transportation and warehousing systems.

Most well established programs will have little control over some parts of their logistics system. Sources of supply, warehouses, distribution points and logistics procedures are usually in place, particularly if the program is linked to other health related activities. Therefore, the program managers are not free in the short term to make major changes in these facilities or procedures. In such cases managers must try to improve the efficiency of an existing system rather than to develop new systems.

Case study 1.1:

Dr. Ahmed Ali has recently taken over as the District Coordinator of a Reproductive health program in the district Rasool Nagar. One of his responsibilities is to manage the logistics systems for the medicine and contraceptives of the program. On reviewing the system he came to know that supplies are received on quarterly basis from the provincial office on the demand from the district office. As the district office has not sent any demand for the last one year the provincial office sent the contraceptive according to its own calculation which has resulted in overstocking of condoms where as the contraceptive pills and injections are out of stock for the last two months. On visit of the warehouse, which was located in the premises of the EDO Health office, he found that the commodities are haphazardly placed and most of the space is occupied by the carton of condoms due to which the warehouse looked to be congested with hardly any available space. The stock register was not updated.

What should Dr. Ahmed Ali do to improve the logistics system of his program?

Answer:

Components of a Logistics Cycle

The following different activities make up the components of a logistics system:

1. Selecting the items (e.g. medicine or contraceptive)
2. Forecasting the quantities to be procured, manufactured or demanded
3. Procuring items or preparing demand
4. Receiving the items from the supplier/ higher level warehouse
5. Managing the inventory
6. Warehousing
7. Processing order for lower levels
8. Transporting items to lower levels
9. Serving customers
10. Monitoring and evaluation of logistics supplies

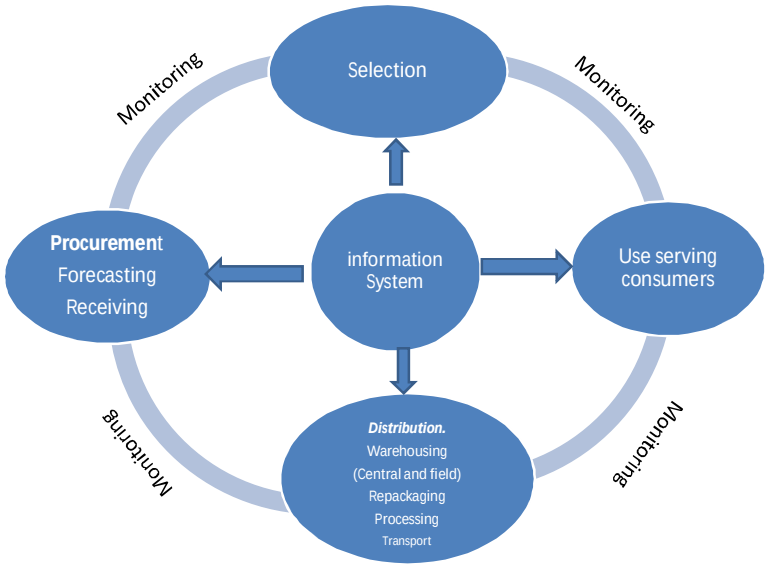


Fig.1.1: The Logistics Cycle

The first activity is to determine what to procure, it differ according to the objectives of the program for which one is working, for example if one is working in a family planning program the items required could be the contraceptives, for malaria control one may need bed nets, malaria diagnostic kits, anti malaria medicine etc.

Once the items have been selected the next step is to determine the quantity of each item required for the specified period, this is called forecasting. It is done on the basis of various factors like prevalence of specific condition in the area or as in case of contraceptives average monthly consumption etc. on the basis of the forecasting the order/ demand are placed. The material is usually received at central (or provincial) level directly from the supplier. It is stored in the central/ provincial warehouse, and then supplied to different program outlets such as districts and sub district stores and from here the end users i.e. the consumers. Intermediate activities include gathering and using supply information, transportation and warehousing in the field.

Managing the inventory is the central activity on which the all of other activities depend. Inventory management is the link between the consumer demand and organization's manufacturing or

procuring activity. Placement of orders according to the actual requirement of the target population and timely transportation of commodities to the delivery outlets are important pillars of a strong and efficient logistics system.

Well managed monitoring system of the program enables the mangers to identify the bottlenecks and take necessary remedial actions.

For an effective logistics system every activity depends on the other. If these activities are well managed the logistics system will work in an efficient manner. Otherwise the system may be weak and poorly managed resulting in stock outs and or over stocking.

Objectives of a Logistics System

The aim of a good logistics system is to store and supply the right quantity of goods to meet consumers demand at all program levels. In other words it may be said the basic theme of a good logistics system is to ensure uninterrupted supply commodities to the end users.
The objectives of a good logistics system are said to be comprised of "6 Rights", these are:

- **Getting the Right Goods**
- **In the Right quantity**
- **At the Right places**
- **In the Right Condition**
- **At the Right Time**
- **For the Right cost**

Right cost does not mean that the logistics system can maximize services to the consumers and at the same time minimize the cost. High-quality logistics services require large inventories, more frequent transportation and many ware houses etc; all of which raise the cost. Low distribution cost often means cheap transportation, low stock levels and few warehouses, which hinders the smooth flow of commodities. Hence "Right" refers to an efficient system in which the 'input' (resources, cost etc.) is balanced against 'output' (services, supplies etc.). Ideally all the logistics systems decisions should result in a level of service that meets the output needs. The key logistics factors that determine the level of quality services include:

- Availability of accurate and timely information on consumption and stock levels.
- Accurate forecasting of needs.
- Timely ordering and processing of supplies.
- Reliable delivery
- Organized and efficient warehousing.

Programs promoting the birth spacing desire uninterrupted supply of contraceptives to the clients which in turn require an efficient logistics system. Any stock outs in such program may lead to dis- satisfaction of clients and unwanted pregnancies.

What Does Contraceptive Logistics Mean?

The contraceptive logistics system is a vitally important part of any program that provides family planning services. It is the system that is responsible for getting the contraceptives from the manufacturer to the family planning client. It encompasses a number of activities along the way, such as transporting and storing the contraceptives, maintaining adequate supply levels, and keeping records. If the logistics system is not working well, service delivery sites will not have the contraceptive supplies their clients need.

The purpose of a contraceptive logistics system is to get the:

- RIGHT quantities of the
- RIGHT contraceptives to the
- RIGHT places at the
- RIGHT time in the
- RIGHT condition at the
- RIGHT cost.

In other words, the staff who manage contraceptive supplies need to determine how much (quantity and cost) of what (contraceptive) needs to go where (what location) when and how to get it there in good condition

To provide family planning clients with good contraceptive services, you must make sure that you have:

- The right amount of supplies on hand (not too many, not too few).
- Contraceptives of good quality (not expired, not damaged).
- A full selection of the contraceptive methods that your program offers and clients request.

The goal of a logistics system is to ensure that every family planning client always receives the contraceptives she or he wants, and that they are in good condition and have not expired. To select, procure, and distribute the right quantities of the right contraceptives, managers of the logistics system must keep informed of the rates of use of each contraceptive and of the quantity of available supplies. This requires the following:

- Timely and accurate reporting.
- Proper storage.
- Close monitoring and managing quantities of contraceptives dispensed.

Quiz- Introduction to Logistics

Section 1: Fill in the Blanks:

I. Logistics is the branch of _____which deals with making commodities available to group of population or consumers.

II. Well managed _____enable the managers to identify the bottlenecks and take necessary remedial actions.

III. _____for the actual needs of the target population and _____ of commodities are two important pillars of strong and efficient logistics system.

IV. Determining the quantity of each item required for the specified period is called _____.

V. _____ is the link between the consumer demand and program's manufacturing or procuring activity

Section 2: Mark True or False:

Statement	**True**	**False**
Estimation of the quantities to be procured is the first step in the Logistics system.		
Inventory management is the link between the consumer demand and organization's manufacturing or procuring activity.		
Supply needs are usually based on the estimates of the population to be served.		
Low distribution cost always ensures a good logistics system.		
Programs promoting birth spacing desire an uninterrupted supply of the contraceptives to the clients.		

Section-2- Introduction to Basic Statistics

Basic Statistics

What are Statistics?

Statistics area combination of techniques and procedures dealing with the **Collection**, **Organization, Analysis**, **Interpretation** and **Presentation** of information that can be stated numerically.

Collection: Data is gathered on prescribed format e.g. example district receiving a monthly report from all FLCFS on a prescribed format regular basis.

Organization: Data is grouped or organized in an ascending or descending order processed and summarized e.g. MCH component of the DHIS contains data on mother and child health, the FP portion of report having data on FP users etc.

Analysis: Comparisons between the data variables and time period lead to analysis e.g. at FLCF analyses of monthly reports are carried out in which population coverage, EPI, ANC, CPR, etc are calculated.

Interpretation: Inferences about data are drawn e.g. if CPR is low then the percentage of either the supply of contraceptives is not regular or the staff is not sufficient to cater the population.

Presentation: It is reporting of a result in an honest and unambiguous way.

Data and Information

Definition

DATA	INFORMATION
Data consist of facts and figures that are not currently being used in a decision process. An example is one of the LHW Family Register. OR Data are collected facts that are generally not useful for decision making without further processing OR it is the raw material for information.	Information is a data that has been processed into a form that is meaningful. Information is directly useful in making decisions. **Examples:** • Total number of CBAs in a Union council. • Total number of working community based workers. • %age of modern contraceptive users

Collection of Data

The most important ways of collection of data are:

- Survey.
- Census.

Statistical data are collected either by a complete survey of the whole population, called census, which involves a considerable expenditure and time, or by a sample survey which saves much time and money.

Types of Data

Primary data: Data that have been originally collected (raw data) and have not undergone any sort of analysis are called primary data.

Example: LHW Registers, survey data etc.

Secondary data: Data that have undergone any sort of analysis at least once, i.e. the data have been collected, classified, tabulated or presented in some form for a certain purpose, are called

Example: LHW Monthly Report, Facility Report, Feedback report, research report.

Case Study 2.1

The MO In-charge collected data from different sources and found that in 2004, population of the UC was 22,000, 51% are males and 49 % are females. CPR of the area is 42%. There are 20 LHWs, 01 MO, 01 MA, 01 LHV and 01 WMO working in the RHC. A total of 1980 children were under 3 years of age. The married CBAs population was 3520 and 4,620 of the population was 15-49 years females. Only 43% of children were fully vaccinated. Most of the women breast-fed their children while knowledge of basic hygiene, weaning diet etc was deficient among mothers. Last year 5000 births took place. In the same year, 19% children less than 3 year suffered from diarrhea and 14.5% children from ARI and 289 from other diseases.

Question: The facts and figures mentioned in case study are Data or Information?
Answer:

Question: List down the Data and Information from the case study?
Answer:

Data	Information

Vital Statistics

There are some factors which cause changes in the size and composition of human population e.g. births and in migration (people coming into a population from other locations) add to the existing population where deaths and out migration (people migrating to some other place) decrease the existing population. Such factors are called vital events and they include births, deaths, and migration (factors that change the size of the population). This study is called **Vital Statistics.** E.g. the figures in deaths, births and total registered population in the DHIS monthly report shows the changes in population figures.

Variables

Variables are events that has different values OR a value, which changes during action. They can be quantitative (measurable or can be counted) or qualitative (does not take a numerical value i.e. gender, place of birth, color of eyes)

Examples:

Age, Sex, Marital Status, Time, Temperature, total number of working LHVS, total No. of children born etc. are some examples of variables.

Case Study 2.2

A Store keeper of RHC wants to collect the data of FP users in a population. What will be the most appropriate variables she includes in the questionnaire?

Answer:

Demographic Count

The absolute number of a population or any demographic event occurring in a specified area in a specified time period e.g. 44 health facilities in a district, 5 persons in a house etc. are called demographic count. Decimals are not included in Counts, so 4.5, 32%, and 2/5 are not included in count. The raw quantities of demographic events are the basis of all other statistical analysis.

Example:

56 visits, 443 community based workers, 9236 FP users etc.

Case Study 2.3

In RHC Bhallan, CPR is 45%. Working community based workers are 23. In one month 35 women received contraceptive injections. List down the count and variables

Answer:

Proportion / Percentage

The relation of one population subgroup to the entire population is called proportion. A percentage is simply another way to expressing a proportion. Percentage means per 100. A percent may be expressed as a decimal or a fraction by dividing it by 100.

Explanation: Percentage is the result of simple mathematical division

= Numerator / Denominator or [x/y] but there has to be a relationship between x and y (i.e. x has to be a part of y) and the constant is always 100. Percentage is not time bound.

The percent sign (%) is a symbol used to indicate percentage.

1-To change a fraction or a mixed number to a percent.

(a) Multiply the fraction or mixed number by 100
(b) Reduce if possible
(c) Add a % sign

Example: Change 1/7 to a percent
Solution: 1/7 X 100 = 100/7
=14.2 %

Examples of Percentage:

- CPR 35%
- Method mix of contraceptive user = Condoms 30%, OC Pills 55%, Injections 8%, Sterilization 8%

2- To change percentage in to numbers

a) Remove the percentage sign.
b) Divide the mixed number by 100
c) Answer may or may not be in decimals.

Example: - 57 % = 57/100 = 0.57
9 % = 9/100 = .09

Case Study 2.4

In village A number of married women of 15-49 using contraceptives is 182 out of these 116 are using OC Pills. Calculate the percentage of OCP users.

Answer:

.

Case Study 2.5:

The catchment population of a FLCF is 43,200. Of this population, 6048 are married CBAS. Out of which 2719 are using modern contraceptive methods. Calculate the CPR.

Answer:

.

Rate

This is the occurrence of events over a given interval in time. It is a special form of proportion that includes specification of time.

Rate = Numerator / Denominator or [x/y] but there has to be a relationship between x and y (i.e. x has to be a part of y)

Example:

1. **Infant Mortality Rate** $\frac{\text{No. of infant deaths in a specified year}}{\text{Total number of live births in that specified year}} \times 1000$

2. **Contraceptive Prevalence Rate** $= \frac{\text{Total No. modern contraceptive users}}{\text{Total no. of married CBAs (age 15-49 yrs)}} \times 100$

3. **Method Mix** $= \frac{\text{Total No. users of specific method}}{\text{Total number of contraceptive users}} \times 100$

Case Study 2.6

In a population of 30,000, during the year 2014, there is 900 married couple of reproductive age. Out of these 100 are using condoms, 120 OC Pills and 23 have got tubal ligation done.

Calculate the Contraceptive Prevalence Rate (CPR).

Answer:

Mean or Average

Mean is sum of all the observations and divided by total number of observations.

Characteristics:

- Also known as average.

- Most frequently used
- Applicable to all types of data.

Formula:

$x_1, x_2, x_3 \ldots\ldots\ldots\ldots x_n$ = Value of observations

N =Total number of observation

Average/Mean = $\frac{x_1+x_2+x_3\ldots\ldots\ldots\ldots x_n}{N}$

Example:

If a community based Worker did home visits in the last six months as following. Find out her average home visits per month?

Month (X)	Home Visits
Jan	200
Feb	200
Mar	300
April	400
May	300
June	150

Answer:

Total Visits =1550

Total Months = 6

Mean visits in one month = Total visits / Total months

$\overline{X}$ = (200+200+300+400+300+150) / 6 =1550 / 6 = 258

In one month she on the average visited **258** houses.

Case Study 2.7:

The population of a village Munirabad was 5,000. A sample of 5 males and 5 females are taken from this population which has the following age structure in years.

Male Ages: 30, 20, 15, 20, 25

Female Ages: 35, 30, 25, 20, 35

Find the mean age of male and female?

Answer:

Case Study 2.8:

FWC Ahmedabad distributed condoms to clients from January to June 2014 according to following details.

January 70, February 60, March 80, April 110, May 100, June 120

Calculate the average distribution for these 6 months

Answer:

Quiz: Introduction to Statistics

Section-1

Fill in the Blanks

1. The Data that have been originally collected (raw data) and have not undergone any sort of analysis are called----------data.
2. In Vital events three main factors are included ----------.----------,----------.
3. The relation of one population subgroup to the entire population is called ----------
4. The occurrence of events over a given interval in time is called ----------
5. ---------- are the events that have different values or a value which changes during action.

Section-2

Mark True/False

Statement	True	False
Information is the raw data that is directly collected from field		
The absolute number of a population or any demographic event occurring in a specified area in a specified time period		
Data that have undergone any sort of analysis at least once is called Primary data		
In proportion the numerator has no relationship with the denominator		
The statistical data collected from the whole population is called survey		

SECTION – 3- Contraceptives Logistic Management

Unit-3.1- Product Selection and Forecasting

Introduction to Product Selection

Product selection means choosing the items to be procured for any program or project. In the birth spacing programs the major products to be procured are the contraceptives. The types of contraceptives and their quantity depends on various factors such as the popularity of certain contraceptive in the population to be served, total population to be served and overall goals and objectives of the program/project.

After selecting the products to be procured and determining the quantity required the procurement process starts. Contraceptives are procured either from the local market or from international market. Various factors like availability of the items according to the required specifications, quality of the products, feedback from the previous user and last but not the least the price of items are kept in mind while making the decision. Usually an open bidding process is adopted for procurement.

The product selection is usually done at the national or provincial level, as this manual focuses on the district and sub district level managers the detail of the process are beyond its scope.

Introduction to Forecasting

Forecasting may be defined as **"the process of estimating the quantity of commodities needed to serve a given population for specified period of time".** In its simplest form forecasting occurs when a person or persons responsible for supplies of commodities in a given service area determine the quantities expected to be consumed and conveys this plan to the competent authorities.

This estimation helps to avoid shortages (stock out), ensures credible service delivery and prevents over stocking and wastage. The message delivered is, "we need such and such quantity of commodities to be supplied over the specified period of time to meet the need and demand of the intended beneficiaries." Forecasting done on realistic calculations also contribute to efficient procurement, inventory management and distribution.

Process of Forecasting

A precise forecasting can be achieved by collecting, processing and analyzing data relevant to the future program needs. Person responsible for forecasting should be well versed of the future plans of the program. Middle and lower level managers responsible for forecasting should know about the expected number of new clients for each contraceptive method during the period for which forecasting is being done. However we get the estimates for our forecast by looking at past data. Usually three sources of data are used to estimate contraceptive needs, these are:

a) Consumption (or Logistics) data
b) Service data
c) Population to be served (target) data

Every source has its own advantages and disadvantages. Hence in order to determine more accurate estimates it is recommended that program managers should use all the three sources and compare results. Ideally there should not be much difference between the results from different sources. If the results differ widely it means that either the policies are not being followed or the quality of data and/or its analysis is not good.

Advantages and disadvantages of different data sources

Consumption Based Estimates

In this method forecasting is done on the basis of the products distributed to the users at service delivery point (BHU or FWC etc.) or community based service outlets (LHWs) and non government/ private sector sales or distribution points. This is the most accurate method but requires a reasonably accurate information system that has tracked logistics data for at least one year

Table 3.1.1: Advantages and disadvantages of Consumption Based Estimates

Advantages	Disadvantages
1. It is one of the most accurate methods for forecasting. 2. It measures both the level and trends in quantities given to the clients, thereby eliminating the additional assumptions and calculations required by other forecasting methods.	1. If data at the lowest level are incomplete and/or inaccurate the forecasting may not be very accurate, in such cases the forecaster should use reliable data from the next level up in the distribution system- also called issue data. 2. It cannot predict the impact of pragmatic changes such as new clinics/ service openings or preference for a particular contraceptive method. 3. It will not reflect the true demand or distribution system capacity if stock-outs or over supply situation occurs during the period used for forecast. 4. It is more accurate and easy to forecast if the usage patterns are stable. For more accurate calculations the past data for a longer period may be required, if forecasting is to be done for a quarter then the data from last 3-4 quarters should be used, if it is on annual basis then data of past 3-4 years may be required.

Service Data Estimates

Services data recorded at the service delivery out lets such as BHU, FWC or Health House of LHWs etc. can be used to forecast the contraceptive requirement for a given period. Commonly reported data includes:

- New clients: The number of clients using the service outlet for the first time or were the user in the past but discontinued contraceptive use and have history of unprotected sex, and the quantity of contraceptive issued to them.
- Re- Visit (Follow up): the number of clients who have been regularly using the contraceptives (they may not have visited during the reporting period, depending on the method being used).
- Side effects: the number of cases of side effects associated with use of any contraceptive method or continuation/ discontinuation during the particular period can be determined during the reporting period by registration of new clients or drop outs.

When targets are expressed in terms of users or visits, estimates based on service data must take into account any planned growth or management directed changes. It is important to note

that if there are interruptions in supplies during the reporting during period, it will result in inaccurate forecast due to the inability to serve the clients. Sometimes the reporting staff may submit fake or false reports just to show their performance or to meet the target imposed by the management, in such cases the forecasting may be inaccurate.

Table 3.1.2: Advantages and Disadvantages of Service Data Estimates

Advantages	Disadvantages
1. They automatically take the program limitations into account 2. When program targets are expressed in terms of users or visits, estimates based on same data take into account any planned growth or other management directed program changes.	1. Estimates are accurate if the supplies are regular, in case of interruptions in supplies the estimates may be distorted. 2. In case of false/ fake reporting the estimates may not be accurate, over reporting may lead to inaccurate estimation and over supply.

Couple Years Protection (CYP)

The term Couple Year Protection (CYP) is used to estimate the quantity or the number of a specific type of contraceptive required to protect a couple from pregnancy for one year. For example if a couple is using OC Pills as a method, then the number of OC pills Cycles required to protect this couple from contraception for one year will be the CYP for OC Pills. It may also be defined as the estimated protection provided by family planning (FP) services during a one-year period, based upon the volume of all contraceptives sold or distributed free of charge to clients during that period It can be calculated from the data routinely collected through programs or projects and thus minimizes the data collection burden

Purpose

CYP measures the volume of program activity. Program managers and donor agencies use it to monitor progress in the delivery of contraceptive services at the program and project levels. Because managers/ donors generally require the organizations they support to report CYP, this measure is currently one of the most widely used indicators of output in international FP programs.

Population Based Estimate

This method is used with new programs where there is little or no prior experience on which the estimates can be made. The contraceptives requirements are calculated on the basis of census results, surveys or some previous studies or reports on the population to be served.

Table 3.1.3: Advantages and Disadvantages of Population Based estimates

Advantages	Disadvantages
1. It is independent of service delivery system, therefore can be used when historical program data is either not available or is inaccurate. 2. Provides estimates of maximum needs for services (or potential clients) verses the current users.	1. If the targets are set high (not realistic) the requirements is over estimated resulting in over supply and wastage. 2. If the same targets are used for a wider community (for example the whole country or province) there may be supply imbalances in various places due to different trends in different areas. 3. It is usually based on the assumption the program is the sole supplier of the commodities in the area, in fact there may be other potential suppliers such as other programs/ departments/ NGOs and private sector. If these are not taken into account during forecasting the estimates ma y be inaccurate. 4. The data collection requires more time and resources.

Formula for forecasting by various methods

a) Formula for forecasting contraceptives requirement using service data

Estimates Based on Visits	Estimated total visits for this month x Number of units dispensed at each visit. **Example:** At FWC Kotli, 8 clients of condom user are expected to visit during the month of September 2014, the staff issues 10 pieces of condoms to every client. So the estimated number of condoms required at this center will be = 8 x 10= 80
Estimate based on current users	Estimated current users for this method x No. of units required to be served to a client a current use for the year (CYP) **Example:** At BHU Hyderabad the number of current OC Pills user for year 2015 is 32 The required number of OC pills for this centre for year 2015 will be = Number of current clients x CYP for OC Pills = 32 x 15 = 480

b) Formula for population based forecasting of contraceptive requirements:

Step 1: Estimate the number of contraceptive users	All married women of 15-49 years X Target Population for usage (Contraceptive prevalence rate or CPR)
Step 2: Estimate the of users of given method	Number of users x estimated proportion of users of a given method (Method Mix)
Step 3: Estimate requirement for given method	Number of users of given method x number of units required for 1 year (CYP)

Example:

In the district B the total number of married women of 15-49 years is 40,000, here the CPR is 25 %, 15% of the contraceptive users use condoms, calculate the number of condoms required for the district for one year

Step 1: Estimate the number of contraceptive users = All married women of 15-49 years x CPR

= 40,000 x 25/100 = 10,000

Step 2: Estimate the number of condom users = Number of users x Est. No. of condom users

= 10,000 x 15/100 = 1500

Step 3: Estimate requirement for given method = Number of users of condoms x CYP for condoms

= 1500 x 120= 180,000

Case Study 3.1.1

At BHU Muladad, 22 new and 18 old clients of condom user are expected to visit during the month of December 2014, the staff issues 10 pieces of condoms to every client. Using this information calculate the number of condoms required for the said month?

Answer:

Case Study 3.1.2

At FWC Karimnagar the expected number Depo Provera injection user for year 2015 is 58, if the CYP for injection Depo Provera is 4, calculate the number of Depo Provera injection required to protect these couples for one year using this method.

Answer:

Case Study 3.1.3

In the district of Shajowal the total number of married women of 15-49 years is 63,000, here the CPR is 30%, out of the contraceptive users 44% use OC Pills, and the CYP for OC pills is 15 Cycles calculate the number of OC pills cycles required for the district for one year.

Answer:

Responsibilities of forecasters

a) Forecast

The forecaster has to predict the amount of product to be dispensed to clients while taking into account the expected losses or damages in the logistics process.

b) Validate

Since there are many data sources and different forecasting methodologies, it is necessary to compare the results to analyze inconsistencies. If there are substantial differences, there could be a number of reasons leading to the variations in the results. These reasons must be analyzed and validated with input from many stakeholders to ensure an accurate forecast.

c) Estimation of scarce commodities

There may be some products that are not available in the market in sufficient quantity; the forecaster must also look for multiple sources of supply as well as alternate products, if possible, to meet anticipated needs.

d) Monitor

The forecaster must keep a check on the validity assumptions used for forecasting by comparing the forecast with the actual consumption for adjustment and correction. This would provide a basis for further future forecasts.

Quiz- Product selection and forecasting

Section-1

Fill in the Blanks:

1. _____ means choosing the items to be procured for any program or project.
2. _____ is one of the most accurate methods for forecasting
3. The term _____ is used to estimate the quantity or the number of a specific type of contraceptive required to protect a couple from pregnancy for one year
4. The data recorded at the service delivery out lets such as BHU, FWC or Health House of LHWs etc. is called _____.
5. Calculation of contraceptives on the basis of census results, surveys or some previous studies or reports on the population to be served is called _____.

Sec tion-2
Mark True or False

Statement	True	False
In order to determine more accurate estimates it is recommended that program managers should use all the three sources and compare results		
For accurate forecasting it is better to rely on one data source rather than to analyze and compare data from different		
CYP cannot be calculated from data routinely collected through programs or projects		
Interruption in supplies during the reporting period may lead to inaccurate forecasting		
Forecasting done on realistic calculations also contribute to efficient procurement, inventory management and distribution		

Unit- 3.2- REQUISITIONING

INTRODUCTION

Requisition is a paper or electronic request form that may be used internally to request items from existing warehouse stores or to request new items. The form usually includes an item number and /or description, quantity needed, date required and e location or department making the request. A supply requisition must be approved by a competent authority before onwards submission.

The success of every logistics system lies in the efficient requisitioning mechanism. A carefully designed requisitioning system helps to avoid over/ under stocking.

Contraceptives Requisitioning (CLR-6)

Background

Pakistan's Health and Population Departments had been using the CLR-6 and CLR-6(H) for contraceptives requisitioning from central warehouse, Karachi. Before devolution the CLR-6 was used by the former Ministry of Population Welfare (MoPW) and the CLR-6 (H) was used by the former Ministry of Health (MoH). Both of these forms had been generated by district offices of their respective departments. Now District officers of both the Population and Health Departments are required to prepare the prescribed Integrated CLR-6 jointly and send to the Central Warehouse, Karachi and to the respective provincial department on a quarterly basis.

The Central Warehouse& Supplies (CW&S), Karachi is the custodian of all public sector contraceptives and, with policy changes after devolution, CW&S stock is considered as ONE stock. Integrated requisitioning was introduced and all provinces and regions agreed on the new CLR-6 format.

There are two main stakeholders using the integrated CLR-6 i.e. the Department of Health (DoH) and Population Welfare Department (PWD) of each province and region.
This form is filled at district level in quarterly meetings and signed by district officers of both departments. The District Population Welfare Officer (DPWO) is the Secretary of the meeting while the Chairman is the Executive District Officer Health - EDO (H) / District Health Officer (DHO).

The EDO (H) / DHO are responsible for contraceptive requisitioning for:

- itself,
- The Lady Health Workers (LHW) Program,
- The Peoples Primary Health Care Initiative(PPHI)/Chief Minister's Initiative for Primary Health Care (CMIPHC), the Maternal, Neonatal & Child Health (MNCH) Program and the Tertiary Care Hospitals (TCH), located in an any of the districts vicinity.

The DOH demand in the CLR-6 will include TCH requirement which can be obtained manually through SDP/Health Facility.

The DPWO is responsible:

- for Family Welfare Centers (FWCs),
- Mobile Service Units (MSUs),

- Reproductive Health Centers (RHS).

NGOs i.e. Marie Stopes Society (MSS) & Family Planning Association of Pakistan (FPAP) will submit their CLR-6 separately by collecting information from the districts and submitting district wise and total demand to the CW&S. Deliveries against the demanded quantities will be made to their identified central point/stores. For the private sectors and NGOs, a separate CLR-6 form is designed to submit their requisition separately. Deliveries against the demanded quantities will be made to their identified central point/stores.

There are six data fields needed for each commodity requested i.e.

- Consumption during the last quarter,
- Stock at the end of last quarter at district Store,
- Stock at the end of last quarter at population and health facilities.
- Total Stock Available (sum of stock both field and district store),
- Desired stock level for 2 quarters (Calculated from consumption) and
- Replenishment Requested (calculated by subtracting "Total Available Stock" from "Desired Stock level for 2 quarters").

In addition to these indicators, DPWO has to submit their sales because PWD is not providing contraceptive free for cost to its clients.

Public Sector Integrated CLR-6 Form

This form is used by all district level public sector Family Planning Service Providers (DPWO, DOH & LHW, PPHI/CMIPHC, MNCH and TCH) for requesting contraceptives from Central Warehouse.
The Integrated CLR-6 was introduced in 2012 after a policy decision by the federal and provincial health and population departments. It compiles requests from district level. This form indicates the stock status and consumption during the past quarter and indicates the quantity requested for each contraceptive for the quarter.

Instructions to fill the public sector CLR-6 Form

Section-1

1. **To:** Insert the name of the person or position who the Requisition is intended for. For Example: Director, Central Warehouse.
2. **District Name:** Insert the name of the district. Name of the requesting district.
3. **Requisition No:** Insert the appropriate Requisition number. This is determined by each District. Consult with the In Charge.
4. **Requisition Date:** Write the date. The Requisition should be completed at the end of the reporting period. Example: 1 April 2014

Section-2

Part-A-D is for DoH

- **Part-A :** It give the information about department health including TCH
- **Part-B:** It deals with DoH and community based distribution(LHWs)
- **Part-C:** it deals with DOH, PPHI static facilities
- **Part-D:** MNCH health (CMWs)

Part-E-F is for Population Welfare Department

- **Part-E:** It deals with DPWO
- **Part-F:** RHS A centers
- **Part-**G &H: for Marie Stopes and FPAP.

Table 3.2.1: instructions for filling relevant columns of CLR-6 Form

Department of Health		
1.	**Sections A – D** All steps are completed by following the instructions below. The only difference is who fills out sections A – D.	Section **A** is completed by the District Officer for the district, including Tertiary Care Hospital located in the relevant district vicinity. Section **B** is completed by the District Program Implementation Unit (DPIU) of LHW Program Section **C** is completed by PPHI/CMIPCH Section **D** is completed by MNCH
2.	**Section A** **A-D 1** Provide the consumption at your facility for the past quarter	Completed by Executive District Officer/ District Health Officer Provide this information for all products/columns on the form.
3.	**A-D 2** Provide the amount of stock on hand at the district store at the end of this quarter	Conduct a physical inventory and update your stock cards afterwards.
4.	**A-D 3** Provide total amount of stock at all health outlets in this district at the end of this quarter	Find this by reviewing all facility reports.
5.	**A-D 4** Determine the desired stock amount for the next two quarters.	Multiply the figure in A1 by 2. (Double your consumption for the quarter that just ended)
6.	**A-D 5** Determine your replenishment	(A5 - A4) subtract how much stock you have from the total you wish to have for the next period.
Population Welfare Department		
1	**Sections E – H** All sections are completed by following the steps below. The only difference is who fills out parts E – H.	Section **E** is completed by DPWO Section **F** is completed by Reproductive Health Centers (RHS) Each Section has two parts - an A and B. Each part A and B is the same for all Sections
2	**Section E – H, Part A1** Avg. quarterly sale on the basis of last three months consumption	Calculate the average sale per month based on the last quarter consumption and write in Pak rupees. The condoms are sold at 0.5 Rs per unit while all other

		contraceptive at 3 Rs. / unit or cycle
3	**E – H A2** Sale/Use Last Month	Indicate sale in Pak rupees for all contraceptives in this cell. The sale is calculated by multiplying the use/consumption by sale prices
5	**E –H, A3** Amount of sales proceeds deposited in bank/treasury (Attach original paid challan)	Write amount that was deposited from these sales into the bank or treasury. Remember to keep track of your receipts or bank numbers
6	**E – H, A4** Bank/Treasury challan no. & Date	Write the reference number of challan no. with date
7	**E –H, B1** Consumption during the last quarter	Add up the total consumption for all products during the quarter that just ended. Find this information from the web-based LMIS if consumption data is regularly entered into it every month
8	**E – H, B2** Stock at the end of last quarter at district Store	This should be done by conducting a physical count. Update the corresponding stock cards at the same time so your true balance is known.
9	**E – H, B3** **Stock at the end of last quarter at health facilities**	Add the monthly reports from all the health facilities in the district. Make estimates for non-reporting facilities
10	**E – H, B4** **Total Stock Available**	Add steps 2+3 above
11	**E – H, B5** **Desired stock level for 2 quarters**	Multiply step 1 (Consumption during the last quarter) X 2
12	**E – H, B6** **Replenishment Requested**	Subtract step 4 from step 5 desired stock level – total stock available

Exercise for filling the CLR-6

Consumption data for COC in xyz district to fill in the CLR-6 form to complete the requisition.
COC issued to clients from facilities during from 01 April to 30th June 2014.

Description	Facility-A	Facility-B	Facility-C	Facility-D	District	Total
Consumption	832	765	1,032	755	-	3384
Stock on hand (as of 30th June 2014)	1,003	432	654	109	1200	2198

Example: Fill in CLR-6 as per data given above

S.No	Description	COC (No.)
1	**2**	**3**
PART - A (To be filled by Requester)		
A-1	Consumption during the last quarter	3,384
A-2	Stock at the end of last quarter at district Store	1,200
A-3	Stock at the end of last quarter at health outlets	2,198
A-4	Total Stock Available (A2+A3)	3,398
A-5	Desired stock level for 2 quarters (A1x2)	6,768
A-6	Replenishment Requested (A5-A4)	3,370

Contraceptive Reporting and Requisitioning by SDPs

The service delivery points / health facilities of health and population welfare departments will use the following format for contraceptive reporting as well as requisitioning from the concerned District Offices on monthly basis as per inventory level defined for them. This will also include contraceptive stock positions in the respective service delivery points.

SDP/Health Facility Monthly Contraceptive Report and Requisition

Facility _____ District_____ Reporting Month_____

Item Name	Opening Balance	Received	Issued	Adjustments (+)	Adjustments (-)	Closing Balance	Next Month Requirement
Condoms							
COC							
POP							
ECP							
Copper-T							
Multiload							
2-Months Inj							
3-Months Inj							
Implanon							

Prepared by:
Signature_____
Name_____
Designation_____
Date_____

Verified by:
Signature_____
Name_____
Designation_____
Date_____

Instructions for Filling the SDP Report

1. **Facility:** write down the name of service delivery point sending the report e.g. BHU Mirpur or FWC Haripur.
2. **District:** Write down the name of relevant district e.g. district Peshawer
3. Reporting Month: Month along with year for which the report is being prepared e.g. April 2014.
4. **Opening Balance:** The stock of relevant contraceptive available is store at the start of relevant month.
5. **Received:** The total quantity of relevant contraceptive received (from all source) during the reporting month.
6. **Issued:** The total quantity of relevant contraceptives issues to clients during the reporting month.
7. **Adjustments (+)/ (-):** Any adjustments made in the stock during the month in light of physical verification or expiry destructions etc.
8. **Closing Balance:** The stock of relevant contraceptive at the end of the reporting month.
9. **Next Month's requirement:** The estimated requirement for next month (based on the estimates of number of visits or AMC), Subtracting the closing balance.
10. **Prepared By:** signatures, name and designation of the person preparing the form (store Keeper).
11. **Verified By:** Signatures, name and designation of person verifying the report (In charge of facility or MS of hospital etc.)

Case Study 3.2.1: SDP/Health Facility Monthly Contraceptive Report and Requisition:
Mr. Asif is the storekeeper of BHU Hatian, district Attock, this facility provides condoms, COC Pills, 2- Months and 3- Months injections and Copper-T, to the clients. On 1st April 2014 the stoke position at the health facility was as under: Condoms 720 pieces, COC pills 45 cycles, 2- months injections 25 vials, 3 months injections 18 vials, and 5 pieces of Copper –T. The details of contraceptives issues from the facility during the month is Condoms 680 pieces, COC pills 33 cycles, 2- months injections 18 vials, 3 months injections 12 vials, and Copper –T 3 pieces . During the month the facility received 432 condoms, 20 cycles of COC, 10 vials each of 2-months and 3- month's injection. No adjustments were made during the month. The AMC for different methods at this BHU is Condoms 700 pieces, COC pills 40 cycles, 2- months' injections 24 vials, 3 months injections 20 vials, and Copper –T 4 pieces. Fill in the SDP/Health Facility Monthly Contraceptive report and Requisition form for the said month:

Answer Case Study:

SDP/ Health Facility Monthly Contraceptive Report and Requisition

Facility: District: Reporting Month:

Item Name	Opening Balance	Received	Issued	Adjustments		Closing Balance	Next Month's Requirement
				(+)	(-)		

Prepared By:

Signature_____

Name: _____

Designation: _____

Date: _____

Verified By:

Signature_____

Name _____

Designation: _____

Date: _____

Transportation

Transportation is an important part of any supply chain, for making the commodities available to the end users. Transportation refers to movement of commodities from one level to other by using any mode keeping in view the weight, volume, storage temperature and terrain to destination. The modes of transport could be road, sea and air. In Pakistan, contraceptives are transported mostly by road.

Current transportation practices in Pakistan

In case of international consignments, contraceptive commodities are being imported in the country by public (health and population) and private sectors mostly through sea and air routes. The concerned public sector department is responsible for clearing of 81 consignments from the sea and airports. The services of a clearing agent are hired to get the shipment cleared from the ports. The clearing agent is also responsible to transport the commodities from port to the desired storage facility by using the truck trailers. The transportation cost along with loading / unloading is included in the contract amount of clearing agent. CW&S, Karachi, being a central repository for storage of contraceptives in Pakistan, is receiving consignments either received from within the country or outside sources.

The CW&S manages to transport the commodities directly to the public sector district stores by road through private goods forwarding agencies. The consignments are dispatches on quarterly basis.

Districts distribute contraceptives to the health facilities / SDPs on monthly basis. In Population Welfare Department, the service providers collect contraceptives from the District Population Welfare Office in the first week of each month and carry those as per their own arrangements. However, in the Department of Health, commodities are distributed to facilities using official transport.

In order to ensure commodity security and avoid stock outs at the concerned facilities, the transportation mechanism should be based on the following parameters:

Mode Selection Criteria

Four key criteria can be used when comparing different transport modes. These parameters are:

- The speed which the mode exhibits.
- The reliability that the mode demonstrates in its ability to fulfill service requirements.
- The comparative unit costs, which the modes incur.
- The flexibility that the mode exhibits.

Speed and reliability will have a major impact on the ability to deliver humanitarian aid effectively and efficiently to where it is needed.

a) Speed

The nature of a mode normally determines the speed at which goods can be moved. However, the nature of the modal infrastructure can have an impact on the relative speed of that mode. Environmental factors, such as congestion on roads and the impact of adverse weather conditions, can impact on the ability to move at the optimal modal speed.

b) Reliability

The reliability of a transport service to deliver the correct goods, in the right condition at the required time, every time, is a major aspect of customer expectation.
Unreliable service in terms of planned aid delivery can have a critical impact on the ability of a program team to meet its humanitarian objectives.

c) Cost

The cost of a mode will often be expressed in terms of the unit cost for transporting the goods or materials, rather than an absolute figure. This could be expressed as a cost per carton, sack, cost per ton and cost per pallet or similar. The distance the goods have to travel must also be considered. Therefore modal cost can also be expressed in terms of a value per ton kilo meter, for example.
Understanding costs at this level of detail allows a very precise comparison of modes to be made. However, if the goods are in the form of a full load and there is a choice of available modes for the consignment size, the absolute cost for transportation could be compared. For instance, transport could be quoted as a cost per 24 ton load from point A to point B.

d) Flexibility

Flexibility relates to the scope for variation, which exists in a mode.
The infrastructure within which a mode has to operate will affect the flexibility of that mode. Comparatively speaking road transport is a very flexible mode, due to the road infrastructure, which exists in most countries. Rail, for example, is less flexible, being constrained by the available fixed infrastructure.
The selection of mode of transport should be rational.
The following key factors should be kept in consideration during transportation:

- Proper packing of commodities
- Proper loading/ stacking of commodities i.e. right-side up especially in case of liquids.
- Proper shelter to save commodities from environmental and climatic conditions during transportation
- Proper documentation (Issue/ Receipt Voucher) of loaded commodities shall be complete and provided to transporter.
- Prior intimation to consignee.

Unit-3.3- INVENTORY MANAGEMENT (Inventory Control System)

INTRODUCTION

Inventory management is required to maintain and store the right quantity of supplies to meet consumer (service providers and community based workers / Community) demand of medicines/ contraceptives at all levels (Province/district/ facility). Without proper inventory management and control, an undersupply or oversupply of medicines/ contraceptives can occur, which may adversely affect the activities of an organization.

Brief Logistics Glossary

The following logistics terms are used in this guide.

Table 3.3.1: Brief Logistics Glossary

S.#	Words	Definition
1.	**Undersupply**	means stock-outs or below the minimum level;
2.	**Oversupply**	means overstocking or above the maximum level
Both the situations are to be avoided by the managers while collecting data through LMIS for properly managing inventories of materials, to decide how much and when stock should be ordered or issued, and to maintain proper stock levels of all items.		
3.	**Contraceptive method**	A category of contraceptive, such as oral contraceptives, intrauterine devices (IUDs), injectable contraceptives, and condoms
4.	**Contraceptive product**	The method and brand name of a contraceptive. Different brands of the same contraceptive method are considered to be separate products. For example, Famillа (OC Pills), Saathi (Condoms) are different brands of combined oral contraceptive pills, and condoms.
5.	**Dispense (to user)**	To provide a contraceptive or other item to its ultimate user (the client). A service provider dispenses contraceptives to a family planning user at a clinic or other outlet.
6.	**Dispensed-to-user data**	The number of units of a product (usually a specific brand or contraceptive method) provided to clients of family planning services (contraceptive users) over a specified time period.
7.	**Issue**	To provide a contraceptive or other item to a storage or service delivery facility. A storage facility issues supplies either to an outlet or to another storage facility (but not to a user).
8.	**Service Delivery Point (SDP) or Outlet.**	A clinic or other site where contraceptives are dispensed to users
9.	**Stock out**	When an SDP/outlet or storage facility has no stock on hand of

		a particular item.
10.	**Shelf Life**	Shelf life is the length of time a product may be stored under ideal conditions without affecting its usability, safety, purity, or potency. If a product is not stored correctly, the shelf life may be shortened

TYPES OF INVENTORY MANAGEMENT SYSTEM.

There are three types of inventory management system:

1. Push System

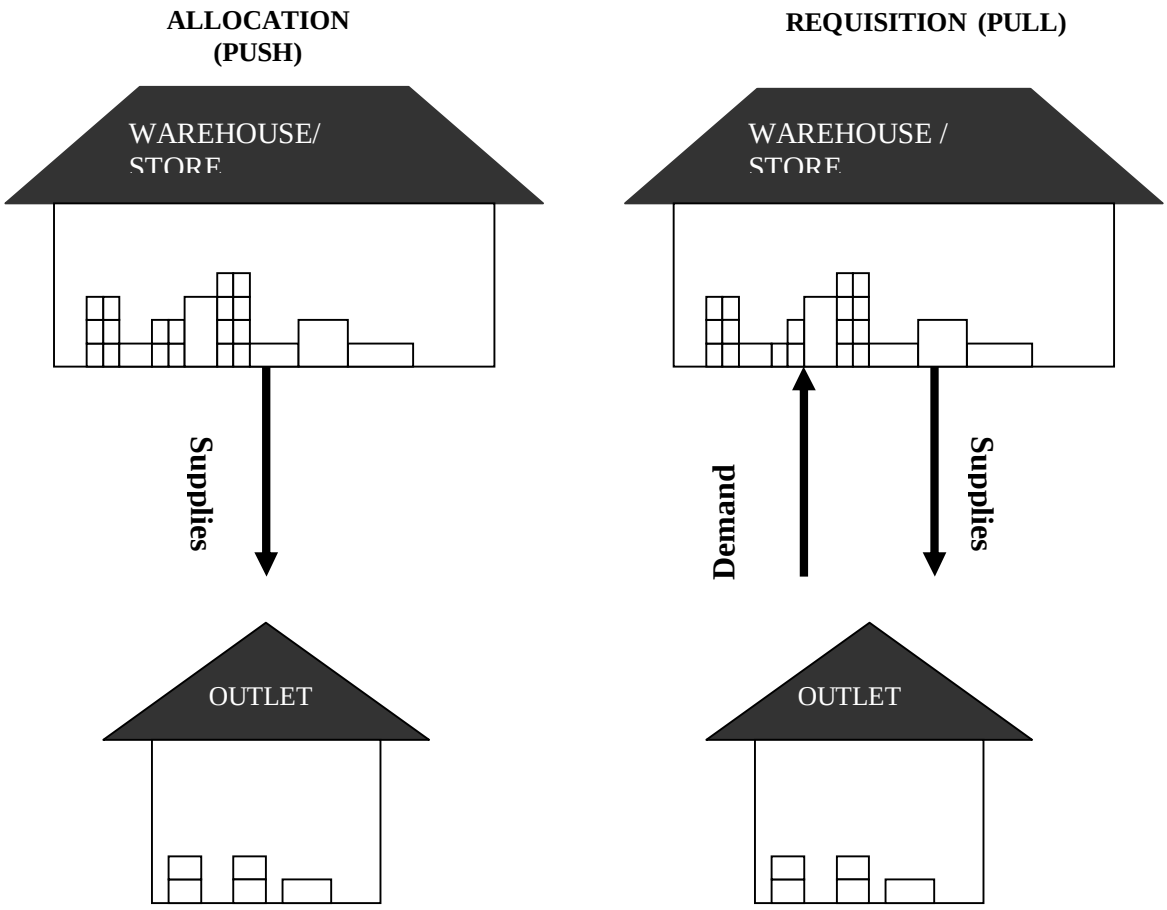
It is the system where supplies are allocated or provided by the HIGHER level without any demand/ requisition from the lower level.
The system is used under the following circumstances:

- When the requisition is not submitted in time from the lower level.
- Stores have accumulated beyond their capacity to properly store their goods/commodities.
- When new workers are inducted at community or service delivery point
- In any case of emergency.

2. Pull System

It is the system where supplies are provided to the lower level according to their actual demand. The recommended procedure for DoH and DPWD is that the service outlets submit their requisitions on a quarterly basis to their District office. The main factor is to consider as to whether the facility has established its Average Monthly Consumption (AMC) for each commodity and has determined its min/max levels. The district office prepares its integrated requested on CLR-6 form and sends it to CW&S which in turn issues contraceptives to the districts

Fig. 3.3.1: PUSH and PULL illustration



3. THE TOPPING UP SYSTEM.

This is a combination of push/pull in which the supervisor staff draws supplies from the higher level store before making supervisory and/ or monitoring visits. They inspect the stocks and records of the lower level visited and in consultation with the relevant staff determine the quantity needed to "top up" specific commodities to their **maximum** levels. An Issue Receipt Voucher (IRV) is prepared on the spot and commodities are re-supplied to the outlets or individuals directly. The topping up system has the advantages of eliminating a stock-out and involving local facility staff in inventory decisions. The main consideration is that supervisory and monitoring visits must be regularly scheduled and any lack of transportation or unavailability of supervisory staff will disrupt the flow of supplies.

NOTE: It is pointed out here that the topping up system is not a replacement of regular Push or Pull system. It just supplements the normal supply system. In the public sector it is desirable that the normal supply should be through Pull system and supplemented by Topping Up system.

Using a MIN/MAX System

In order to avoid under/overstocking and/or stock-outs, the following Min/Max definitions and principles must be observed by all organizations.

- **Average Monthly Consumption (AMC):** Average Monthly Consumption (AMC) may be defined as the average number of the units of a specific contraceptive that is dispensed in a month.

For calculation of the AMC it is necessary that facilities have received supplies for at least three consecutive months and they have had no stock outs. The average is usually based on the quantities dispensed during the last 6 months. In the situation where demand is changing rapidly, the average should be based on shorter period say 2-3 months. AMC can be calculated at every level i.e. Community outlet (e.g. CMW/LHWs), SDP/Outlet or FWC, district level and provincial level. The calculation at the community outlet is more rational as it is the point where actual consumption takes place.

Case Study 3.3.1:
If at a SDP or other facility 80 cycles of oral contraceptive pills are distributed to clients in one month, the outlet will demand 80 cycles for the next month., If we want to calculate the AMC we have to look into the demand for the last six (or 3) months, if the consumption is as followed:

Month	Consumption
Jan	80
Feb	67
Mar	72
April	54
May	90
Jun	73
	Total: 436

If the supply was regular then its average monthly consumption will be

- **Review Period (also known as order interval)-**The routine interval of time between the two demands/ orders of stock levels is called Review period>under the current practice the review period for public sector is - is 3 months.

- **Lead time-** The time interval between when supplies are ordered and when they are received and available for use. Usually the lead time from district to SDP is 15 days and from CW&S to Districts is 01 month

- **Safety Stock-** The buffer, or reserve stock (expressed in months of supply) kept on hand to protect against stock-outs caused by delayed deliveries or unexpected increases in demand. Safety stock is half of the Review period that is calculated for District/SDP/service outlet as 1.5 months.

- **Maximum Quantity-** The stock level, expressed in months of supply, above which the inventory level should not rise under normal conditions. It is a sum of review period, lead time

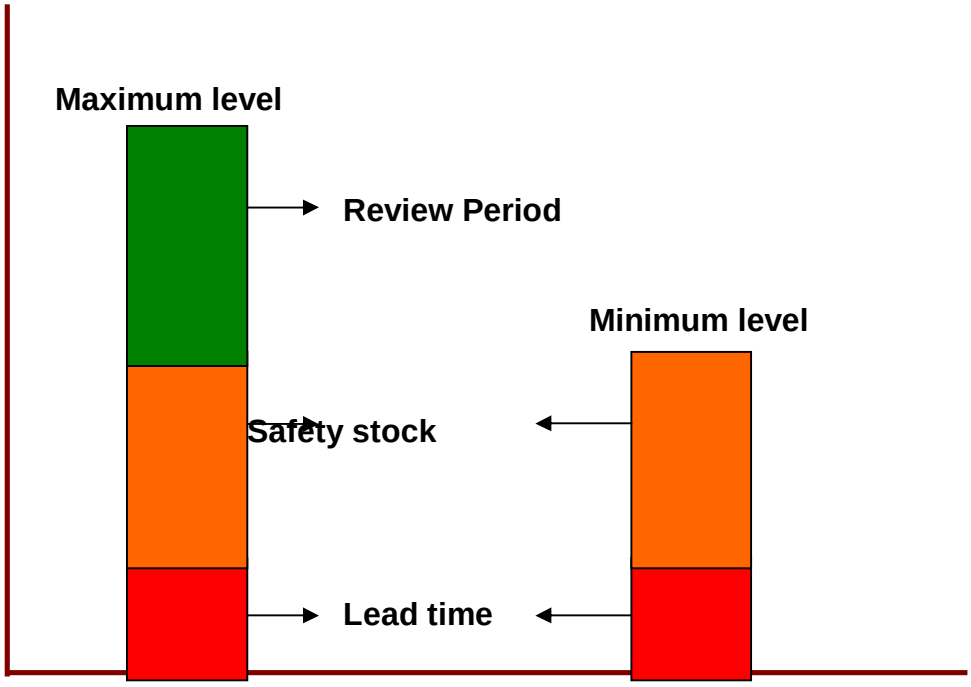
and safety stock. In case of District it is 5.5(6 months) and for SDP/service outlet the maximum quantity is 5 months.

- **Minimum Quantity:** the stock level (in months of supply) below, which the inventory level should not fall under normal conditions. It is desired that requisition may be sent when the stock touches this level it is a sum of lead time and safety stock. For the District it is 2.5 months while for service outlets the minimum quantity is 2 months of stock.

Table 3.3.2: MIN/MAX Levels for District /Service outlet level

1	2	3	4	5	6
Level	**Lead Time**	**Review Period**	**Safety Stock (½ of Col.3)**	**Min. Level (Cols.2+4)**	**Max. Level (Cols.2+3+4)**
District	1 month	3 months	1.5 months	2.5 months	5.5 months
SDP Service outlet	0.5 month	3 months	1.5 months	2 months	5 months

Fig. 3.3.2: Bar Graph showing maximum/ minimum stocks level



ASSESSING STOCK STATUS

The level of stock at any level is calculated on the basis of months of stock available instead of quantity of commodities available (balance on hand). It can be calculated by dividing the available quantity (balance on hand) by AMC

$$\text{Months of Supply on Hand} = \frac{\text{Balance on Hand}}{\text{AMC (Avg. Monthly Consumption)}}$$

Case Study 3.3.2 (Assessing the supply status of SDP)

RHC Shahwali had 130 cycles of Oral Contraceptive Pills (OC Pill) in the balance at the beginning of the January 2014 and 155 cycles were received during the month. 75 cycles were distributed to clients during the month. Average Monthly Consumption (AMC) of the facility is 70 cycles. Assess the supply status of RHC Shahwali at the end of January 2014.

Answer:

QUIZ- Inventory Management

Section –1
Fill in the Blanks

1.__ _____ is the status when stocks are above the maximum level

2. __ ___ is the system where supplies are provided to the lower level according to actual demand

3. The interval of time between two demands is called ---------

4. The stock kept on hand to protect against stock outs caused by delayed deliveries or unexpected increase in demand is called ----------

5. AMC stands for _____

Section-2:
Mark True or False

Statement	True	False
Under supply is the situation when SDP/or storage facility has no stock on hand of a particular item or it is below the minimum level		
Pull system is recommended to be followed during emergency situation.		
Provision of contraceptives from storage point to SDP/service delivery is called dispensing		
The length of time for which a product may be stored under ideal conditions without affecting its usability, safety, purity or potency is called shelf life		
Inventory management is done to avoid under supply or over supply of medicines/contraceptives		

Unit-3.4- LOGISTICS MANAGEMENT INFORMATION SYSTEM (LMIS)

INTRODUCTION

Converting data to information, portraying it in a manner useful for decision making, and interfacing the information with decision-assisting methods are considered to be at the heart of an information system. Logistics information systems are a subset of the organization's total information system, and it is directed to the particular problems of logistics decision making.

In any organization, data from all periodic inventory reports is summarized to identify how many commodities are moving through all levels. During the monthly reporting period, it is essential that reports containing data on quantities of contraceptives received, distributed from the lowest level reach the top level. This data is used to determine the national inventory level needed in order to enable senior management to maintain a sufficient national supply, prevent supply imbalances, and estimate future requirements. These decisions can be made correctly only if they are based on accurate distribution/ consumption data.

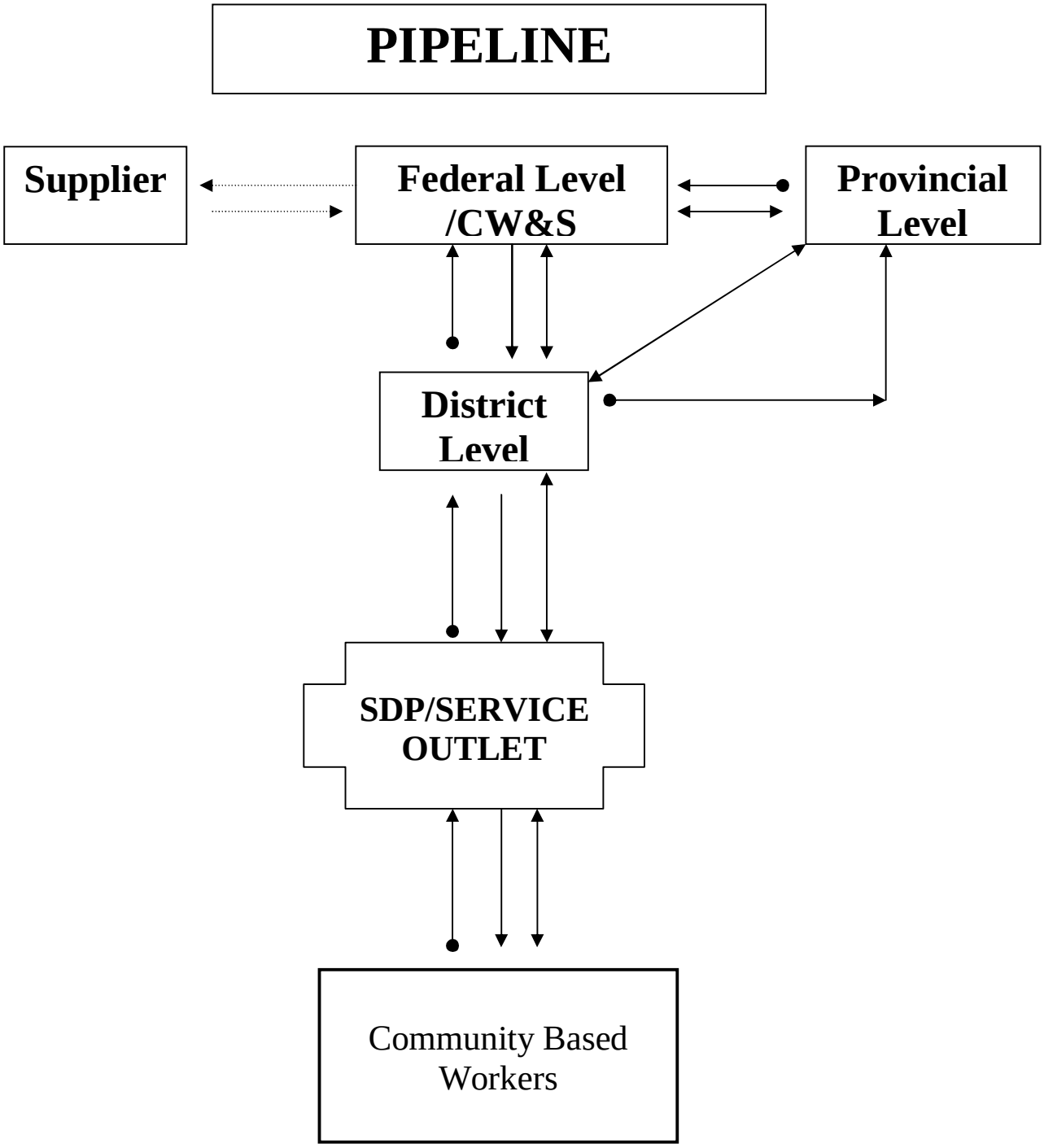
The actual management of logistics system is supported by information and record's sub-system that monitors the flow of commodities and assures accountability for commodities within the system. This information and record system tracks:

- Stock on hand – the quantity of usable stock available at all levels at a particular point in time, normally monthly.
- Rate of consumption – the average quantity of commodities dispensed to consumers during a particular period, normally monthly.
- Losses/adjustments – the quantity of commodities removed from the distribution system for any reason other than consumption by clients.

FLOW OF COMMODITIES AND LMIS DATA

As commodities move down through the Logistics System, information flows up through the system. This chapter includes reporting requirements and standardized forms.

Fig. 3.4.1



INFORMATION AND RECORDING SYSTEM

Commodities move in the logistics system in five ways:

- Through the service delivery system
- Through transfers or loans to other sister organizations.
- Through loss or theft
- Through damage or deterioration
- Through disposal due to executive order

Tracking the movement of commodities involves a variety of records:

1. Stock Register
2. Issue and Receipt Voucher (IRV)
3. Bin Card
4. SDP/Health Facility Consumption Record
5. Physical verification of stocks
6. Logistics Monitoring Reports (Logistics Monitoring Checklist)

1. STOCK REGISTER

The basic stock-keeping record is the Stock Register. The purpose of the stock register is to provide an up-to-date record of all transactions of warehouse/storerooms of the commodities received, issued and discarded.

The Stock Register has to be maintained by the Storekeeper and entries have to be verified by the In-charge/logistics manager at each level.

GENERAL INSTRUCTIONS: STOCK REGISTER

- Name of the warehouse/store will be written only on the cover page of the register;
- Stock Register must be certified by the Officer In-charge as mentioned above, specimen of the certificate is as under:
- An Index of Content, which serves as a quick reference guide, is prepared in the beginning of the Stock Register. In this index, the page numbers of the Stock Register, which are allotted to the specific items, will be mentioned against each item's name. Separate pages will be used for each commodity. A sufficient number of pages in the stock register must be reserved for each commodity.

"It is certified that this register is maintained for commodities of the _____ facility,
contains _____ pages (from Page No._____to Page No._____)". All the pages have been checked and found intact, accurate, duly stamped and initialed by the undersigned.

Seal &Signatures
Date: Officer In charge

Example No. 1

Transaction of OCP is recorded at page No. 005 of the Stock Register. In the index, "005" will be written in the column as the page number against which OCP will be recorded.

INDEX

S.No.	Name Item/ Article	Page No.
1.	OCP	005
2.	Condoms	012
3.	Injection Depo provera	020
4.		
5.		
6.		
7.		
8.		

Specimen Stock Register

Page No. **Contraceptives**

Name of item/ Article: **Unit:**

1	2	3	4		5	6	7
Date	**Received from/ Issue to and Reference**	**QUANTITY IN UNITS**				**Name & Signature**	**Remarks**
		Received	**Issued**		**Balance**		
			For Care	**Discarded**			

How to fill Stock Register

Name of Item/ Article (Top of the page)
Name of the item along with specifications will be written as shown in the example. All the items must be written using their Generic names instead of brand names; however, the brand names can be mentioned in the description column (Column no. 2 of the stock register).

Unit
Unit is the basic accounting unit. It is the number of individual pieces contained in the standard packing for a product, it is very important to note that supplies must always be requested, issued and reported by number of individual pieces and not large units such as packing/ cartons.

Date (Column No.1)
In this column the on which the transaction (issue/receipt) took place is written.

Received from/ Issued to and Reference (Column No.2)
This column is meant to identify the source from which any quantity is received and the consignee to whom any quantity has been issued from the warehouse/store. Different colored ink must be used for quantities received and issued (preferably red for receipt and blue for issues).

Received (Column No. 3)
In this column, quantity of the item received is recorded.

Issued (Column No. 4 & 5)
FOR CARE In this column the quantity of the item issued for use or onward distribution to the lower levels is recorded.

Discarded
In this column, quantity of the expired/ damaged/ broken/ unusable item will be recorded. The Storekeeper must certify entries and the Officer in-Charge concerned.

Balance (Column No. 6)
In this column, the balance quantity of items available in the warehouse/store after receipt or issuance is recorded.

Name and Signature (Column No. 7)
In this column, Storekeeper must sign and the Officer-in-Charge must initial against each transaction.

Remarks (Column 8)
In this column, remarks may be given, e.g. expiry date/expired quantities of the item, physical conditions or any notation concerning any unusual condition or specific situation may be made.

Note: when there is no place left on the page for further entries, then; on the bottom of the same page mention the next allotted page number of the stock register using red ink, e.g. Balance Carried Forward (BCF) to page number….. The next page of the stock register for the item so carried forward will start by referencing the previous page number, e.g. Balance Brought Forward (BBF) from page number…... In case the stock register is finished, mention the following statement at the end of every item.

* Balance Carried forward to Stock Register No……..page No. ….

* New Stock Register must contain the following statement at the start of every page: "Balance Brought Forward from stock register No…….. Page No…."

Example

Stock Register **Page No. 005**
Medicines/ Supplies

Name of item/ Article: OCP **Unit:** Tablet

1	2	3	4		5	6	7
Date	**Received from/ Issue to and Reference**	**QUANTITY IN UNITS**				**Name & Signature**	**Remarks**
		Received	**Issued**		**Balance**		
			For Care	**Discarded**			
15/1/2014	Received from CWH vide Receipt Voucher No. 1162/ dated 15/1/2014	50,000			50,000		
30/1/2014	Issued to RHC xyz		20,000		30,000		
2/2/2014	Issued to RHC abc		20,000		10,000		
10/3/2014	Received from province vide Receipt Voucher No. 1180/ dated 20/02/2014	40,000			50,000		

Case Study 3.4.1

Mr. Saif Ullah is the store keeper of district store Hayatabad, on **1st July 2014**, he had following items at the store:

Condoms: 72,000 Pieces, OC Pills: 3256 Cycles, Injection Depo Provera: 2225 Vials

On 6th July 2014, he received fresh supplies from the provincial ware house vide voucher number XYZ, dated 3rd July 2014, it contains following items:

- Condoms: 100800 pieces
- OC Pills: 5000 cycles

On 10th July, he issues contraceptives to 5 service delivery out lets according to following details:

1. BHU Rajanpur: vide IRV 2314, Condoms 4320 pieces, OC Pills 300 cycles, Depo Provera injection 120
2. BHU Mithi: vide IRV 2315, Condoms 3600 pieces, OC Pills 105 cycles, Depo Provera injection 75
3. RHC Kalat: vide IRV 2316, Condoms 21600 pieces, OC Pills 550 cycles, Depo Provera injection 350
4. FWC Pubbi: vide IRV 2317, Condoms 3600 pieces, OC Pills 55 cycles, Depo Provera injection 12
5. FWC Mariabad: vide IRV 2317, Condoms 2880 pieces, OC Pills 40 cycles, Depo Provera injection 10

On 16th July he received another supply from the provincial warehouse under IRV #LMQ , dated **11 July 2014,** containing 1500 vials of injections Depo Provera,

There was no further receipt/ issue during the month. Make entries in the stack register and update it.

Page No.

Name of item/ Article: **Unit:**

1	2	3	4		5	6	7
Date	**Received from/ Issue to and Reference**	**QUANTITY IN UNITS**				**Name & Signature**	**Remarks**
		Received	**Issued**		**Balance**		
			For Care	**Discarded**			

Transaction Records

Transaction records are used to record information about the movement of stock from one storage facility to another. It is frequently desirable to include the current stock on hand as well as losses, adjustments, and consumption data. The issuing facility may use the additional data to evaluate the reasonableness of the quantities requested or to ration the quantities to deliver if supplies are limited. Warehouse personnel at both issuing and receiving facilities complete transaction records.

Transaction records are initiated any time a facility requests or issues supplies. They are completed when the receiving facility confirms receipt of the items shipped.

Transaction records are organized by date, which helps identify the transaction. It can then serve as ticklers, reminders that a request was made and not yet received or that an item was issued, but confirmation of receipt is still pending.

The most common formats are Issue/Receipt Voucher (CLR-7). A preprinted voucher number on each transaction record helps track individual shipments.

2. Contraceptives Issue & Receipt Voucher (IRV) For Warehouse

No: _____ Date: _____
Name of Consignee: _____
Designation and Address: _____
Requisition No: _____ Date: _____

Mode of Dispatch (Truck, Program vehicle etc) _____
Dispatch document (Challan/Bilty No._____ Vehicle No) _____

Contraceptives		quantities			Quantities Verification (if any) in		Remarks
Name of Contraceptive	Unit	Requisitioned	Dispatched	Received by consignee	Requisitioned and Dispatched	Dispatched and Received	

Issuer
Signature_____
Name _____
Title _____

Receiver
Signature_____
Name_____
Title_____

How to use Issue/Receipt Voucher (CLR-7)

An IRV (CLR-7) is used for any supplies issued from, or received by, the Central and Provincial Warehouse and Stores. IRVs are pre-numbered and prepared in four copies, the original plus three which are sent to the consignee (along with the supplies) who then returns the copy to the issuing warehouse/store after indicating net receipt of the supplies in appropriate columns. Both the dispatcher and receiver sign the voucher at their end.

- **Lines 1-5** at the top of the form are self-explanatory and are filled by the storekeeper of the issuing warehouse.
- **Columns 1-4** are filled by the storekeeper of issuing warehouse.
- **Column 5**Received by consignee is filled by the storekeeper of the receiving warehouse.
- **Column 6**Requisitioned and Dispatched is filled by the storekeeper of issuing warehouse.
- If the quantity dispatched is more than the quantity requisitioned, the difference will have a + sign and if it is less it will be indicated with – sign.
- **Column 7**Dispatched and Received is filled by the storekeeper of the receiving warehouse and the quantities over or under received will be shown as + or – as the case may be e.g. +30.
- **Column 8**Remarks is used for explaining variations or any other matter that may be necessary e.g. damaged container or receipt of commodities after the expiry date or with short expiry etc.

Case Study 3.4.2

Mr. Abdullah is store keeper of a Provincial Ware house, during the month of September 2014 he received the requisition number 2084/EDOH/ 14 dated 5.9.14, from Dr. Allah Nawaz Executive District Officer Health (EDOH), Qadirpur for supply of contraceptives for the district for next quarter according to the following details:

1. Condoms……. 2,880,000 Pieces
2. OC Pills…….20000 Cycles
3. Injection Depo Provera…… 5000 Vials
4. Injection Norigest …….. 2000 Vials
5. Cu-T……. 500 Pieces

On reviewing the stock position of the said items he found the he has sufficient quantity of OC Pills, Injection Depo-Provera and Cu- T to meet the demand however injection Norigest are out of stock and 2304000 pieces of condoms are available to be issued. After approval from the store manager he issued the items accordingly vide IRV number 1810/14/PW dated 29.9.2014. The consignment was sent to the EDOH through Hired Truck number GB 973, through consignment number 004397 dated 29.9 2014. The consignment was received Mr. Bilal Ali, store keeper of district Qadirpur on 1st October 2014, who found all the supplies according to the IRV except Depo Provera which were 5100 vials. He made the necessary entries on the IRV and after counter signatures from the EDOH returned one copy of the IRV to the provincial ware house.

Fill in the above data in the IRV.

Answer Case Study 3.4.2Contraceptives Issue & Receipt Voucher (IRV)

No: Date:
Name of Consignee:
Designation and Address:
Requisition No: Date:
Mode of Dispatch (Truck, Program vehicle etc):
Dispatch document

Contraceptives		quantities			Quantities Verification (if any) in		Remarks
Name of Contraceptive	Unit	Requisitioned	Dispatched	Received by consignee	Requisitioned and Dispatched	Dispatched and Received	

Issuer _____ Receiver _____
Signature_____ Signature_____
Name: _____ Name: _____
Title: _____ Title: _____

3. BIN CARD

The Bin Car tracks the up-dated balance of an item available in stock; must be used for all levels of storage facilities.

BIN CARD

Name of Article Accounting Unit:
Batch No.
Mfg Date Exp. Date

Date	Description	Quantity		Balance	Initials
		Receipt	Issued		

Bin Cards must show all required information

- Name of commodity
- Accounting Unit
- Batch No. of commodity (if applicable)
- Manufacturing date
- Expiry Date
- Date received/ issued
- Description
- Quantity of commodity received/ issued
- Balance
- Initials of storekeeper.

HOW TO USE THE BIN CARD

- One card must be used for each stack of commodity.
- For each type of commodity, the Storekeeper of the warehouse / store must prepare the card.

Name of Item/ Article
Name of the item along with specifications must be written as shown in the example.

Accounting Unit
It is the individual piece contained in the standard packing of a product. It is very important to note that supplies must always be requisitioned, issued and reported in terms of their fundamental accounting unit.

Batch No.
Batch No. of the commodities, if any, (written on the packing by manufacturers) must be clearly mentioned.

Mfg. / Exp. Date
In specified columns, manufacturing/ expiry dates on the medicines/ contraceptives (written on the packing by manufacturers) must be mentioned.

Date
In this column, date must be mentioned on which date transactions (issued/ receipt) are made.

Description
In this column, it must be mentioned from where the material has been received or to whom it is issued on a particular date.

Signature
Initials of storekeeper must appear against all entries on the Bin Card.

Note: It is important that entries on the Bin Card must be recorded on the same date on which the transaction is actually made.

Case Study 3.4.3: 300 injections DepoProvera having batch No 123 were in the stock at the service outlet XYZ store on 3-3-14. 150 injections of the same batch No were received on 12-04-2014 from District and 270 were distributed from service outlet store to 15 Community based workers on 3-05-2014.

Make entries in the bin card.

BIN CARD

Name of Article **Accounting Unit**

Batch No.

Mfg. Date: **Exp.Date**:

Date	**Description**	**Quantity**		**Balance**	**Signature**
		Receipt	**Issued**		

CONSUMPTION RECORD

As the name of the record implies, consumption records contain dispensed to user data, to record the quantity of each item dispensed to a customer. Consumption records are filled out whenever supplies are dispensed to clients. They are totaled at the end of the reporting period, usually monthly or as required. Consumption records generally do not move. They usually remain at the service delivery facility. The logistics data generated by the SDPs/health facilities is received on prescribed format and consolidated at the district level and entered into the web-based Logistics Management Information System (LMIS).

Below is the specimen of the most commonly used consumption data reporting form used at health facilities. Information from such forms are consolidated at the district level and entered in the web-based LMIS**.**

SDP/Health Facility Monthly Contraceptive Report and Requisition

Facility _____ District_____ Reporting Month_____

Item Name	Opening Balance	Received	Issued	Adjustments (+)	Adjustments (-)	Closing Balance	Next Month Requirement
Condoms							
COC							
POP							
ECP							
Copper-T							
Multiload							
2-Months Inj							
3-Months Inj							
Implanon							

Prepared by:

Signature_____

Name_____

Designation_____

Date_____

Verified by:

Signature_____

Name_____

Designation_____

Date_____

Instructions for Filling the SDP Report:

1. **Facility:** write down the name of service delivery point sending the report e.g. BHU Mirpur or FWC Haripur.
2. **District:** Write down the name of relevant district e.g. district Peshawer
3. Reporting Month: Month along with year for which the report is being prepared e.g. April 2014.
4. **Opening Balance:** The stock of relevant contraceptive available is store at the start of relevant month.
5. **Received:** The total quantity of relevant contraceptive received (from all source) during the reporting month.
6. **Issued:** The total quantity of relevant contraceptives issues to clients during the reporting month.
7. **Adjustments (+)/ (-):** Any adjustments made in the stock during the month in light of physical verification or expiry destructions etc.
8. **Closing Balance:** The stock of relevant contraceptive at the end of the reporting month.
9. Next month's requirement: The estimated requirement for next month (based on the estimates of number of visits or AMC), Subtracting the closing balance.
10. **Prepared By:** signatures, name and designation of the person preparing the form (store Keeper).
11. **Verified By:** Signatures, name and designation of person verifying the report (In charge of facility or MS of hospital etc.)

Case Study 3.4.4: SDP/Health Facility Monthly Contraceptive Report and Requisition:
Mr. Asif is the storekeeper of BHU Hatian, district Attock, this facility provides condoms, COC Pills, 2- Months and 3- Months injections and Copper-T, to the clients. On 1st April 2014 the stoke position at the health facility was as under: Condoms 720 pieces, COC pills 45 cycles, 2- months injections 25 vials, 3 months injections 18 vials, and 5 pieces of Copper –T. The details of contraceptives issues from the facility during the month is Condoms 680 pieces, COC pills 33 cycles, 2- months injections 18 vials, 3 months injections 12 vials, and Copper –T 3 pieces . During the month the facility received 432 condoms, 20 cycles of COC, 10 vials each of 2-months and 3- month's injection. No adjustments were made during the month. The AMC for different methods at this BHU is Condoms 700 pieces, COC pills 40 cycles, 2-months' injections 24 vials, 3 months injections 20 vials, and Copper –T 4 pieces.
Fill in the SDP/Health Facility Monthly Contraceptive report and Requisition form for the said month:

Answer Case Study:

SDP/ Health Facility Monthly Contraceptive Report and Requisition

Facility: _____ District: _____ Reporting Month: _____

Item Name	Opening Balance	Received	Issued	Adjustments		Closing Balance	Next Month's Requirement
				(+)	(-)		

Prepared By:

Signature_____

Name: _____

Designation: _____

Date: _____

Verified By:

Signature_____

Name _____

Designation: _____

Date: _____

PHYSICAL VERIFICATION OF STOCKS

Purpose of Physical Verification

This is a process where available stocks are counted and compared with the balances found in the various stock registers. The In-charge of the store can him or herself takes initiative to conduct the physical verification of the store.

The purpose of a physical verification (at each level) is to determine whether there is any discrepancy between the documentation of the stock or bin card and the actual physical stock situation. It helps managers to establish accountability and evaluate the work of the storekeepers. It also enables managers to determine the need for distribution of soon-to-expire stock and disposal of outdated stocks.

The sample form shown below must be used to record the results of physical inventories taken in the field. This form should be signed and dated by both the persons who performed the inventory and the Manager in-Charge of the store or warehouse.

It is desirable that physical verification of every service outlet store should be done at least once in a year. For this purpose a Committee has to be notified and organized to do this by the relevant authority.

Sample of Physical Verification Form

Service outlet _____Store Location _____

Date of Physical Verification_____

#	Item Name	Physical Balance	Balance on Stock Register	Discrepancy		Remarks
				Excess	Shortage	

Comments:_____
_____
_____
_____

_____ _____ _____

Signature: Signature: Signature:

Designation: Designation: Designation:
Date:

Sample of filled Physical Verification Form

Service outlet _____RHC Bahadurabad_____Store Location ____EDO Office Jehlum____

Date of Physical Verification 21/ 5/14

#	Item Name	Physical Balance	Balance on Stock Register	Discrepancy		Remarks
				Excess	Shortage	
1.	Condoms	143000 pieces	123750 pieces	19250 pieces	----------	Excess pieces on physical verification observed
2.	OCP	20,000 cycles	20,000 cycles	--------	----------	No discrepancy noted
3.						
4.						
5.						
6.						
7.						
8.						
9.						

Comments: Discrepancy in quantity of condoms noted. Incomplete record and IRVs seen.

_____	_____	_____
Signature:	Signature:	Signature:
Designation:	Designation:	Designation:
Date:		

Case Study 3.4.4:

In December 2013, the EDO Health of district Karim Nager constituted a committee for physical verification of contraceptives in the district ware house, Mr. Ahsan Ali, DPWO of the distinct was nominated as the chairman of the committee while Mr. Abdul Latif, DOH and Haji Saghir Ahmed district coordinator of the RH program were designated as the members. The committee conducted the physical verification of the district store on 28th December, 2013. The findings of the verification are as under:

Item	Quantity mentioned in stock register	Quantities available in the store
Condoms (Pieces)	3600000	3599280
OC Pills (Cycles)	130000	13100
Injection Depo provera (Vials)	50000	49880
Injection Noregest (Vials)	35400	35400
Cu- T (Pieces)	12600	12600

The committee found that the stock register was not properly updated and 720 pieces of condoms and 120 vials of injections Depo Provera issued to FWC Mandra vide IRV No. 2011/DS/ 13 dated 27.12.13, were not entered in it. Prepare the physical verification report on the form.

Answer Case Study

Sample of Physical Verification Form

Service outlet: _____Store Location: _____

Date of Physical Verification: _____

#	Item Name	Physical Balance	Balance on Stock Register	Discrepancy		Remarks
				Excess	Shortage	
1						
2						
3						
4						
5						

Comments:

_____

_____

_____

_____ _____ _____

Signature: Signature: Signature:

Designation: Designation: Designation:

Date:

Quiz: LMIS

Section 1: Fill in the Blanks:

1. The _____ must be certified by the Officer In-charge of the warehouse/store
2. As_____ move down through the Logistics System, _____flows up through the system.
3. IRV stands for _____
4. The Stock Register is one of the basic tools for _____.
5. _____ is a process where available stocks are counted and tallied with the balances of stock register.

Section 2:
Mark True or False:

Statements	True	False
Bin Card should always be kept in the safe custody under lock and key.		
It is desirable that physical verification of every service outlet store should be done at least once in a year.		
Different colored ink must be used for quantities received and issued		
It is important that entries on the Bin Card must be recorded at end of every week.		
In the stock register items should be written using their brand name instead of generic names		

Unit-3.5- WAREHOUSING& MONITORING

INTRODUCTION

Warehousing is the system of storage of goods or commodities so that they are always available/ accessible in good condition.

Warehouse is a building specifically designed for the storage of large quantities of commodities, whereas a "store" is a room(s) which may be a part of building used for other purposes. The type, location, and size of warehouses/ stores within the logistic system, all play vital roles in meeting an organization's goals and requirements.

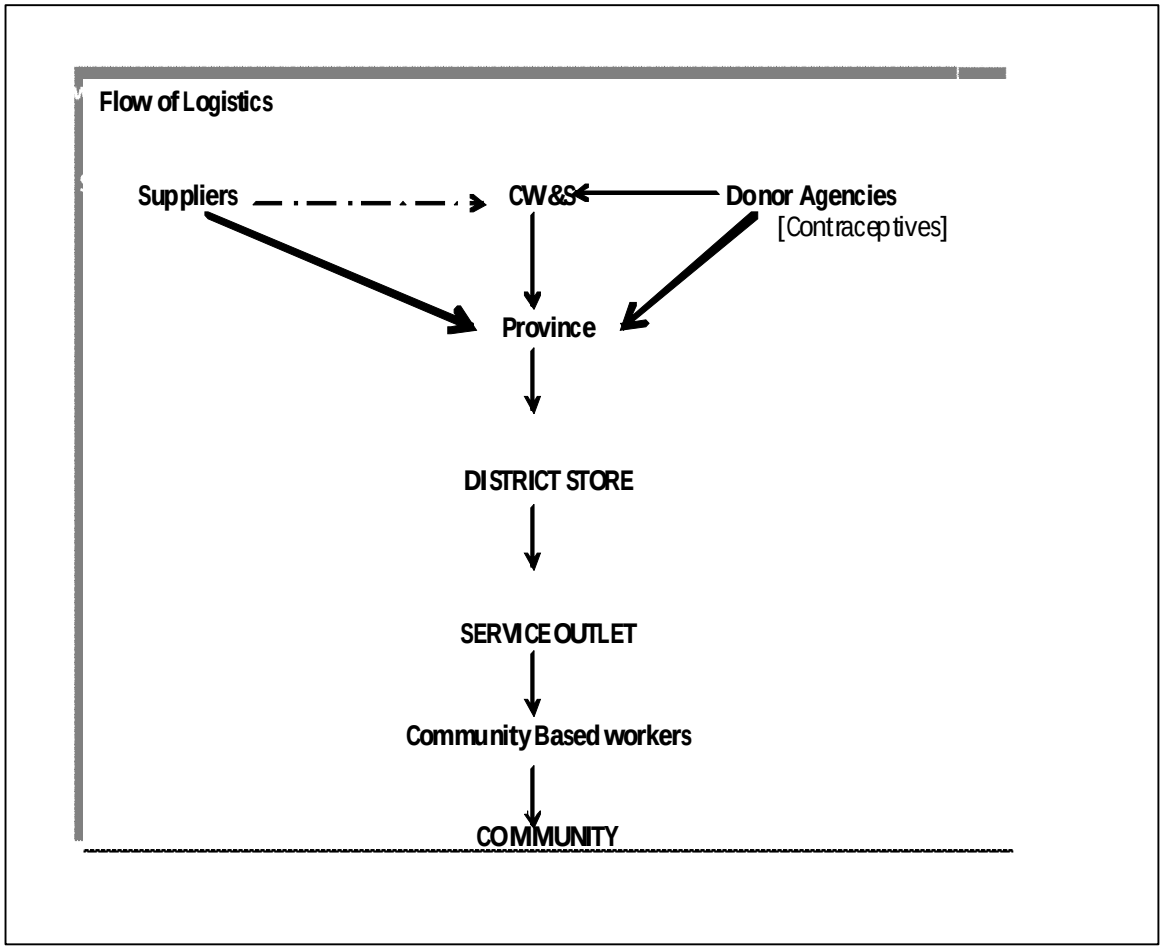
Warehouse Types and Locations

Following four levels of warehouses/ stores are in practice

- Central level — Central Warehouse
- Regional level — Provincial warehouses
- Intermediate level — District store
- Outlet level — service outlets store

Central warehouse receives contraceptives from the donors and issues to the Provincial warehouses.

Fig. 3.5.1: Logistic Channel



Warehouse/Store size

Each storage facility has unique requirement in terms of their size. The size of the warehouse/ store depends on the maximum amount of stocks to be stored. Space is used differently at different levels.

While calculating the available and/or required space at the district or lower levels, it should be considered that normally the commodities could not be stacked higher than eight (08) feet unless a pallet rack system is available. Another important factor to be kept in mind in this regard is that space has to be allowed for corridors between stacks, for movement of stocks into and out of storage area and for ventilation. It is recognized that currently the adequacy of the district stores, in terms of environment, conditions and size, is varying. It is recommended that alternative storage space be acquired and refurbished subject to availability of funds

Storage Space Calculations

The managers at provincial/ district level must determine the required storage space and undertake efforts to acquire suitable space in accordance with the storage guidelines. Many other factors have to be taken into account for establishing provincial, regional and central level warehouse. Following is the simple formula to calculate the space required at the district and/or lower level storage facility.

- **Number of cartons to be stored**

Number of cartons = Number of units to be stored/ Number of units per cartons.

- **Calculate the space required**

Storage space required in cubic feet (volume) = Number of cartons X carton size

  - **Floor space required**

    Floor space (sqft) = storage space required/8 feet (max stack height)

  - **Total Space Required**

    Floor space x 4 (factor used for aisles, corridors and handling) = Total space

Note: Multiplying factor could be adjusted according to the level, size of the store and availability of the space.

Warehousing processes

Following basic warehousing processes are performed in a warehouse.

a. Receiving/unloading
b. Inspection
c. Inventory control
d. Storage
e. Replenishment
f. Order picking
g. Checking
h. Packing
i. Shipping/loading.

Each activity has one or more tasks. Though the number of tasks will vary from situation to situation, there is a common set of tasks for all warehouses. Following are the typical activities involved in goods receipt are:

1. Establish the correct unloading area and ensure it is safe and suitable for the operation.
2. Record the arrival of the vehicle and note the seal number (if applicable).
3. Break the seal with the driver present wherever possible.
4. Check the documentation and record each item against the consignment note.
5. Ensure that the vehicle is safe before unloading.
6. Assemble the goods if necessary in a goods receipt assembly area.
7. If necessary, transfer from delivery pallets and cages to internal means of moving and handling the goods.
8. Check the goods for condition, possible damage and where appropriate carry out required quality checks.
9. Report discrepancies and condition/quality problems at once.
10. Determine the location in which the goods are to be stored and move them out of the goods receipt area as quickly as possible.

The tasks concerned with the bulk storage operation include the following:

- Obtain instructions on where to put the goods.
- Move to that location.
- Place materials/goods in that location.
- Record the location used.
- Consolidate partly filled locations by moving cartons/bags from one location to another.
- Obtain instructions for replenishing goods to the picking areas.
- Replenish the picking areas.
- Report/remove damaged goods.
- Return to the pickup point.
- Report actions.

The tasks concerned with consignment picking include the following:

- Collect picking documents.
- Collect equipment for transporting.
- Locate picking face.
- Check and pick appropriate quantity.
- Travel to subsequent picking faces.
- Advise discrepancies/damaged goods.
- Travel to sorting, consolidation, packing, dispatch area.
- Prepare kits and repack.
- Advise replenishment requirements.
- Complete and pass on documentation.

The tasks to be undertaken in the dispatch area include the following:

- Check notes/goods picked.
- Re-pack/re-pallets.
- Record batch/serial numbers.
- Prepare documentation.
- Label consignments.
- Compile load.

- Confirm load/documentation.
- Load vehicle in sequence.
- Seal vehicle/obtain signature.
- Arrange vehicle movement.
- Open/close shutters or doors.

Warehouse procedures and policies

To operate a warehouse with any degree of efficiency and consistency, it is necessary to define the procedures that will be used in all activities and the policies that will govern these procedures. These procedures and policies will normally be documented by the humanitarian organization and it is the responsibility of the warehouse/inventory manager to make sure that these are adhered to.

Procedures

The advantages of creating and using a procedures document are as follows:

- The effectiveness and efficiency of all warehouse operations across the organization can be controlled.
- By reasons of standardization, staff can be trained more quickly and efficiently.
- The performance of warehouse operations across the organization can be compared.
- The procedures can be agreed and aligned with other functions in order to optimize the performance of the whole department.
- The procedures provide visibility of the operations for department.

The procedures will normally cover the following activities:

- The method of stock checking.
- How to deal with stock losses.
- How receipts will be controlled.
- How inspection will be undertaken.
- How rejected material will be controlled.
- How issues will be controlled.
- How to deal with unwanted material and scrap.
- Stock recording.

The document will also typically contain copies of standard documents and forms to be used in the warehouse activities such as stock register and an IRV vouchers.

Policies define the general conduct of the warehouse operation. Examples of the types of policies that organizations will define are as follows:

- Health and safety.
- Human resources management.
- Security.
- Pest control.
- Warehouse maintenance and cleaning.
- Quality control.
- Record keeping and reporting.

As with procedures, policies are generally documented and copies are kept at each facility.

Tools and equipment required for stores

The following tools and equipment are required for the district stores for purpose of day to day management and repair and maintenance of the store.

Table 3.5.1: Tools and Equipment Required for Store

Storage Layout Principles

S.#	Items	S.#	Items
1	Saw	16	Mop & bucket
2	Hammer	17	Spare bulbs
3	Nails/screws	18	Wheel Barrow
4	Chisel	19	Hand strapping tool with strapping material
5	Scissors	20	First aid box
6	Thread	21	Thermometers/humidity meter
7	Pliers	22	Liquid quantity measures (beakers, flasks etc)
8	Screw Drivers	23	Measuring tape
9	Insulation and strapping tape	24	Electronic measuring scale
10	Rope & twine	25	Rat traps
11	Plastic bags	26	Insecticidal spray pumps
12	Wooden pallets	27	Insecticidal sprays
13	Aluminum Ladder 8-12 feet	28	White Board with markers
14	Broom & Wiper	29	Wooden planks
15	Cobweb brush	30	Firefighting equipment

Following are some storage layout principles:

a. Allocate an easily accessible place for fast moving items.
b. Allocate separate space for slow moving items.
c. Allocate a space at a corner of the store for storing unusable separately from useable.
d. Allocate a separate space for storing chemicals and insecticides etc.

Guidelines and best practices for Proper storage and Managing Materials

Taking account of local legislation

It is the responsibility of the warehouse manager to ensure that the operation complies with local rules and regulations. As ignorance is no defense, the manager must proactively identify those regulations that apply to the operation and take steps to ensure that the operation and all its employees comply with these regulations.
The following is a list of regulations that are often encountered:

- Employment regulations.
- Health and safety rules.
- Rules which govern the operation of forklift trucks.
- Food hygiene.
- Storage of dangerous materials.

- Storage of drugs.
- Building regulations.
- Financial accounting rules.

Regulations on these and other subjects vary around the world and the warehouse manager must not assume that rules in one location also apply in others.

The Storage Environment

- Clean and disinfect store room regularly, take precautions to discourage harmful insects and rodents from entering the storage area.
- Store health commodities in a dry, well lit room.
- Store must be cross-ventilated and, if needed, should be installed ceiling and exhaust fans.
- Keeping in view the weather conditions, the ceiling fans must be turned on during daylight hours.
- Exhaust fans must be turned on at all, times when temperatures exceed 25 degrees C.
- Cold chain must be maintained for sensitive items and be used as required.
- Thermometer must be displayed on wall(s) and two readings per day must be recorded in a separate register preferably at 9:00 a.m. and 2:30 p.m.
- Incandescent lighting fixtures (no tube lights) to be positioned at suitable intervals.
- Store walls must be painted with a lime-based substance annually (Whitewashed)
- Roofs must not leak; rain/floodwater must be managed by proper drainage arrangements installed externally.
- The sun must not shine directly on stored commodities.
- Floor must be raised at least 6 inches above the plinth and must be flat and cemented (Pukka).
- The walls and under-ceilings must be disinfected periodically with a mild commonly available household spray.
- Storerooms must be equipped with pallets, racks, shelves and lockable Almirah.
- Storerooms must be equipped with functional (up-to date) fire extinguishers.
- Physical security must be ensured by the presence of designated security guards (at-least three in numbers).
- Visitors' book is to be maintained for signature and comments of authorized personnel who visit storeroom/ warehouse.

Managing Materials: The Arrangement of Stock

- Cartons must be stacked on pallets with minimum of 4 inches (9-10cms) of space between floor and bottom of cartons.
- Carton labels must be visible and right side up.
- Bin Cards, containing up-to-date information, must be positioned/affixed on stacks, on shelves, almirahs (outside) and/or on racks.
- Space between stacks and walls must be 12 inches (33cms).
- Stacks must not be higher than 8 feet (2.5meters). If at that height the lower cartons show squashing/buckling/compression, etc. then this rule has to be amended.
- Stacks must be vertically aligned/straight, and must not lean to left or right.
- At least 3 feet, or one-meter space, between stacks must be maintained.
- Medicines, drugs and contraceptives must not be stored in same room with

    - Insecticides, volatile chemicals and fluids (like alcohol, kerosene, diesel and petrol).
    - Non-usable equipment, machinery, spare parts, expired drugs, obsolete materials, old files, obsolete stationary and other printed materials.

- FIFO & FEFO: While issuing commodities, First In/First Out & First Expiry/First Out methods must be adopted and practiced.

Table- 3.5.2: Contraceptive Shelf Life and Storage Conditions

Type of Contraceptive	Required Storage Conditions	Shelf Life
Oral Contraceptives	Store away from direct sunlight in a cool, dry location (below 40° C).	5 years (3 years for some manufacturers)
Condoms	Below 40°C. No long-term exposure to high humidity, direct sunlight, fluorescent light, or ozone. Don't store near chemicals.	4 years (for USAID-donated; may vary according to national policy)
Injectable	Below 40°C. Away from direct sunlight. Store vials upright.	3–5 years, depending on manufacturer
IUDs	Below 40°C. Protect from direct sunlight and excessive moisture.	7 years (for USAID-donated; varies by IUD type)
Norplant/Implants	Below 30°C. Dry location.	3 or 5 years

MONITORING AND SUPERVISION OF LOGISTICS SYSTEM

Continuous monitoring of logistics system is required to indicate/ analyze how well the system is functioning and identifies areas that require further investigation. Each level of warehouse needs to be visited periodically to determine whether sufficient quantities of Program commodities are available and to evaluate the storage conditions and logistics related record.

Sufficiency of the available indicates that the system is working well. Finding insufficient commodities or if the commodities are not stored properly, the monitor should analyze where the problem lies.

Monitoring the logistics activities at district and health and population facilities is an important part of the duties of health manages. One of the prime objectives of the monitoring visit conducted by each level officer will be to rectify the problems, which could be solved on spot without involving the upper level management. The officers are also required to provide on job training to the staff dealing with logistics if needed.

The monitoring has to be supportive and it should provide a chance to the lower level employees to learn from the monitoring officers. The Web-based LMIS reports are an essential and routine first stop for all supervisors monitoring performance, and therefore supervisors should plan their visits based on the performance of the facilities (or districts) as reported/presented in the Web-based LMIS.

Checklist for District (Store) Monitoring

Name of District Visit Date

Monitoring Officer

1. Name of In charge

2. In charge store and Logistics

3. Is the separate space for the storage of drug/ medicine and contraceptives provided? **Yes/No**

4. Available space in square feet ----------

5. Is the present storage space adequate? **Yes/No**

6. If no what is the requested space in square feet----------

7. STORAGE CONDITION

1.	Cleanliness	**Yes/No**
2.	Whitewashed	**Yes/No**
3.	Direct sunlight observed	**Yes/No**
4.	Pallets available	**Yes/No**
5.	Ventilation practice	**Yes/No**
6.	Supplies properly stacked	**Yes/No**
7.	FEFO and FIFO methods followed	**Yes/No**

8. LOGISTICS RECORD KEEPING

1.	Are bin card used?	**Yes/No**
2.	If yes? Entries proper?	**Yes/No**
3.	Whether a staff is specially charged with looking after stores?	**Yes/No**
4.	If yes? Whether staff has had any formal training in stock/inventory management?	**Yes/No**
5.	Is the stock register maintained according to prescribed procedure and current?	**Yes/No**
6.	Is issue/receipt voucher file maintained?	**Yes/No**
7.	Are these supplies matches with the quantities receipt from province/donor?	**Yes/No**
8.	Whether physical stock count confirms quantity in inventory record	**Yes/No**

9.	Are the monthly reports being prepared and submitted regularly	**Yes/No**
10	Is the LMIS section filled properly	**Yes/No**
11	Has store been visited by other levels	**Yes/No**

9 . DISTRIBUTION.

9.1 Are medicines and drugs being distributed regularly **Yes/No**
9.2 What is the average lead time (time between the request for supplies and receipt against request) ----------
9.3 Does the district store keeper know how to calculate issue quantities to the service outlet/health facility **Yes/No**

10. SUPPLY SIDE

10.1 Quantities of stock of contraceptives observed on the date of visit.

s.#	Name of product	Quantity available in the stock	Average Monthly Consumption	Sufficiency in number of months
1.	Condom			
2.	POP			
3.	COC			
4.	ECP			
5.	Cu- T			
6.	Multiload			
7.	2 Month Injection			
8.	3 Month Injection			
9.	Implant			

10.2 Stock outs observed in no. or% of SDP/Health Facilities while analyzing monthly reports.

10.3 Reasons for stock outs or low stocks----------

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11 . PROBLEMS AND RECOMMENDATIONS.

Checklist for Health Outlet (Store) Monitoring

Name of Health outlet **Visit Date**

Monitoring Officer

1. Name of In charge

2. In charge store and Logistics

3. Is the separate space for the storage of drug/ medicine and contraceptives provided? **Yes/No**

4. Is the present storage space adequate? **Yes/No**

5. STORAGE CONDITION

- Cleanliness **Yes/No**
- Whitewashed **Yes/No**
- Direct sunlight observed **Yes/No**
- Pallets available **Yes/No**
- Ventilation practice **Yes/No**
- Supplies properly stacked **Yes/No**
- FEFO and FIFO methods followed. **Yes/No**

6. LOGISTICS RECORD KEEPING

6.1 Are bin card used? **Yes/No**
6.2 If yes? Entries proper? **Yes/No**
6.3 Whether a staff is specially charged with looking after stores? **Yes/No**
6.4 If yes? Whether staff has had any formal training in stock/inventory management? **Yes/No**
6.5 Is the stock register maintained according to prescribed procedure and current? **Yes/No**
6.6 Is issue/receipt voucher file maintained? **Yes/No**
6.7 Are the district supplies matches with the quantities receipt at outlet? Is there any discrepancy? **Yes/No**
6.8 Whether physical stock count confirms quantity in inventory record?
6.9 Whether quantities mentioned in the Daily Client/Patient Register match with the quantities issued from the store? **Yes/No**
6.10 Are the monthly reports being prepared and submitted regularly **Yes/No**
6.11 Is the LMIS section filled properly **Yes/No**
6.12 Has store been visited by other levels **Yes/No**

7. SUPPLY SIDE

7.1 Quantities of stock of contraceptives observed on the date of visit.

s.#	Name of product	Quantity available in the stock	Average Monthly Consumption	Sufficiency in number of months
1.	Condom			
2.	POP			
3.	COC			
4.	ECP			
5.	Cu- T			
6.	Multiload			
7.	2 Month Injection			
8.	3 Month Injection			
9.	Implant			

8. PROBLEMS AND RECOMMENDATIONS.

Case Study 3.5.1:

Mr. Safdar Abbasi is the DPWO of district Tando Jam, on the monitoring visit to district store in the district he verified the available stock at the store and average monthly consumption of various methods during the last 6 months the findings are as under:

S.#	Item	Available Stock	AMC	Sufficiency in Months
1	Condoms (Pieces)	1440000	12000	
2	OC Pills (Cycles)	70000	1500	
3	Inj. Depo-Provera (vials)	35700	540	
4	Inj. Norigest (Vials)	24800	275	
5	Cu-T Pieces	20000	400	

Calculate the sufficiency in months for each item and fill the relevant column.
Answer: Case Study Sufficiency in Months:

S. #	Item	Available Stock	AMC	Sufficiency in Months
1				
2				
3				
4				
5				

Quiz- Warehousing

Section 1: Fill in the Blanks:

1. While calculating the available and/or required space at the district or lower levels, it should be considered that normally the commodities could not be stacked higher than _____unless a pallet rack system is available.
2. It is the responsibility of the warehouse manager to ensure that the operation complies _____.
3. Exhaust fans must be turned on at all, times when _____
4. FEFO stands for _____
5. The monitoring has to be _____and it should provide a chance to the lower level employees the _____.

Section 2: Mark True or False:

Statements	True	False
"Store" is a building specifically designed for the storage of large quantities of commodities, whereas a "warehouse" is a room(s) which may be a part of building used for other purposes		
To operate a warehouse with any degree of efficiency and consistency, it is necessary to define the procedures that will be used in all activities and the policies that will govern these procedures.		
Space between stacks and walls must be at least 3 feet.		
For distribution of contraceptives the principle of FIFO must be followed		
Monitoring the logistics activities at district and health and population facilities is not part of the duties of health manages.		

Unit3.6: DISPOSAL OF UNUSABLES.

INTRODUCTION

There are many reasons for the supplies becoming unusable. The supplies may arrive past or near expiry date or may be inappropriate for the needs. There may be inadequate space and staff may be not sufficiently trained for taking proper care of the supplies due to which the supplies even with long shelf life may be mismanaged and eventually become expired or damaged.

The main reasons for commodities becoming unusable are as under;

1. Damaged by insects
2. Damaged by water penetration
3. Extreme heat inside the store room
4. Direct sunlight falls on the products
5. Color changes
6. Excessive humidity inside the store room.
7. Improper Stacking

Apart from above following are **some other reasons** which caused wastage/expiry of contraceptives, medicines and other such items.

- **Relevancy**

Supplies are not relevant to the needs of clients. This situation is usually faced when donations are received which do not comply with local policies and standard treatment guidelines. In case of imported items, sometimes the items are not properly registered in the country and are not allowed to use and get expired before the issue is resolved.

- **Quality**

The quality of supplies sometimes does not comply with the standards.

- **Quantity**

Sometimes the quantity procured is excessive than the needs because of the unrealistic forecasting and other factors and could not be consumed before expiration.

- **Improper handling**

Due to improper storage environment or conditions, careless handling of commodities at various levels of storage, distribution and transportation cause damage.

- **Safe disposal of expired or damaged commodities**
    - Usually disposal of these items in a safe manner often becomes challenging. Improperly discarded medications can pollute our water supply and affect fish and wildlife.

    - The sanction of competent authority should be obtained to the writing off of all losses, deficiencies or depreciation in the value of commodities

Guidelines to be followed immediately if supplies become unusable

Following are some guidelines to be followed immediately if supplies become unusable due to any reason.

- Stop the distribution of supplies immediately.

- Furnish a report to the immediate Supervisor e.g. Health Facility In charge, EDO or Director General indicating the name of the items, quantity, manufacturing date and the period of storage. Also mention the circumstances under which these items were considered unusable, outdated, expired or spoiled.

- Upon receipt of the report the Supervisor will review the circumstances which led to the spoilage of commodities and make a decision whether to accept the reported stock as unusable, or have it inspected or lab tested.

- After determining that the reported stock is unusable, the Supervisor, in consultation with the relevant expert, will specify a place and will lay down the procedure to be followed for the destruction/disposal of the spoiled stock.

- For this purpose the Supervisor will constitute a committee which will make necessary arrangements and will also witness the destruction/disposal process.

Major steps of safe disposal

Sorting and Categorization
The first stage of sorting is to separate out the commodities which are classed as controlled substance, toxic or hazardous products and then uncontrolled products.
Most often the supplies are found to be a mixture of non-pharmaceutical materials and larger quantities of packing. The second step, therefore, is to sort the materials by form i.e. type such as tablets, injections etc. This is necessary so that the flammable and/or water reactive chemical must only be destroyed in a chemical waste disposal facility trained pharmacist should supervise the sorting activities. Decision regarding method of disposing the commodities will then be determined.

In-Date and Useful Materials
Near expiry material, left with 25% of shelf life, should be identified and list of items should be circulated to all those entities that have the capacity to utilize them before the expiry date

Expired Contraceptives
Solids: Tablets, latex condoms, devices etc.
Semi-solid: Creams, lotions, gels etc.
Liquids: vial and ampoules etc.

Process
Sorting should ideally be done by the staff trained on the sorting criteria and must be aware of health and safety risks associated with handling the materials before beginning the work. It should be carried out in open or in a well-ventilated building as close as possible to the stockpiles and should be done in orderly manner.
Staff should be supplied with protective equipment such as gloves, boots, overalls, dust masks etc. Once the commodities are sorted out, they should be carefully packed in the steel drums are containers such as sturdy cardboard boxes and the contents clearly indicated on the outside of containers. The materials should be kept in a dry and secure room, preferably in a separate room to avoid being confused with in-date commodities until disposal is performed.

Safe Disposal
Firstly the possibility of returning unusable commodities to the manufacturers for safe disposal should be explored. If this is not possible, any of the following processes, as suitable to the situation, is to be carried out.

Landfill
Landfill is the oldest and the most widely practiced method of disposing the solid waste. An appropriate landfill will consist of an excavated pit away from water courses and above the water table. Uncontrolled dumping which is harmful for the environment should not be used. Materials disposed of to a landfill should be covered immediately by the fresh municipal waste at the base of working face of the landfill.

Encapsulation
It involves placing the commodities in plastic or steel drums. When the containers is filled up to about 90%, fill the remaining space with a media such as cement, lime mortar, plastic foam, or bituminous sand. Seal the drum and place it at the base of working face of landfill. For cytotoxic materials, use the 40% cement, 30% water and 30% waste by weight well mixed and allow settling for between 7 and 28 days prior to landfill. This will form a firm immobile solid block in which the wastes are relatively securely isolated. The most cost-effective ratio to achieve a minimum permeability of the blocks could be determined by experiment.

Inertization
It involves firstly the removal of all packaging materials from the waste commodities and grinding the waste b adding a mixture of water, cement and lime to form a homogeneous paste which is then transported in the liquid state by concrete mixer truck to a landfill and decanted into normal urban waste. The paste then sets into a hard harmless substance disbursed amongst the urban waste.

The process is relatively inexpensive and can be done in a relatively unsophisticated manner. The main requirement is a grinder or a road roller to crush the supplies, a concrete mixer, labor force, supplies of cement, lime and water. The approximate ratio by weight used is as follows; Waste commodities 65$, Lime 15%, cement 15% and water 5%.

Sewer
Some liquid can be diluted with water and flushed into the sewers in small quantities over a period of time without any serious public health or environmental effect. If there are no sewer of no well-functioning sewage treatment plant, liquids, other than cytotoxic products, can be first diluted with large volume of water and poured into large water courses, provided they are immediately diluted and dispersed by the flowing water.

Medium Temperature incineration
Two chambered incinerators needs to sued that operates at the minimum temperature of 850 C with a combustion retention of time of at least 2 seconds in the second chamber and open burning at low temperatures should not be used particularly for contraceptives and similar materials as this will cause aerosol forms to be released in the open air.

High Temperature incineration
Some industries have furnaces operated at above 850 C with long combustion retention time and disburse exhaust gases via tall chimneys to high altitude. While selecting this method, it should be kept in mind that it may not be cost effective. A thumb rule could be no more that 5% of the value of the commodities should be used as fuel in such furnaces.

Chemical Decomposition

If an appropriate incinerator is not available, chemical decomposition could be done. This is a tedious and time consuming method and another drawback is that treatment chemicals have to be made available all times and also disposal of large quantities e.g. over 50 kg is not feasible at a time.

Unit -3.7 ROLES AND RESPONSIBILITIES

INTRODUCTION

In a logistics management system, the relevant staff plays a vital role in making the system successful. In Pakistan, there are a number of operational tiers that manage the contraceptive logistic system at central and provincial warehouse, district, and health facility levels. The following table shows various tiers and staffing in the logistics management system:

Table 3.7: Key Logistics Staff at Various Levels

LEVELS/ TIERS	OFFICIALS
At central warehouse, Karachi level	Director Central Warehouse Store Supervisor Store Keeper (SK)
At Provincial level	Provincial Logistics Officer / Store In-charge Storekeeper
At District level	DPWO EDO/DHO Health Supervisor Lady Health Workers' Program Store Keeper
At facility level	Family Welfare Workers Lady Health Visitor / Lady Health Supervisor

Logistics Management Staff, Role and Responsibilities

The roles and responsibilities at various levels to manage the logistics system are given in the tables below.

Table 3.7.2: The Roles and responsibilities at various levels

Task	Responsibilities
Receiving	• Ensure that the Store Keeper(s) (SK) receive all commodities according to the quantity mentioned in the invoice/ IRV/CLR-7. • Ensure that all commodities received are in good condition. • Ensure that the commodities received from the suppliers have adequate shelf life. • Ensure that the invoice/CLR-7/IRV is properly signed by the SK and duly countersigned by the designated authority.
Storing	• Ensure that storage space is allocated according to efficient store layout principles. • Ensure that the storage racks/cabinets/shelves and equipment are placed according to the layout plan. • Ensure that all commodities are stored on/in the proper specified racks/cabinet/shelf Ensure that the SKs follow the storage guidelines strictly in running the warehouse. • Ensure that commodities are arranged following the FEFO principle.
Issuing	• Ensure that the SK uses the Stock Register properly. • Ensure that the SK determines issue quantity so the recipients can maintain inventory at the max-min MOS level. • Ensure that the SK prepares the CLR-7/IRV Ensure that the SK issues commodities following the FEFO principle. • Ensure that the SK follows the supply scheduling in supplying commodities. • Ensure that SK correctly maintains the copies of CLR-7/IRV.
Recording	• Ensure that the SK maintains the Stock Register for recording transactions. • Ensure that the SK records commodities in bin cards and Stock Register. • Ensure that bin cards and Stock Register are up-to-date. • From time to time, check the bin cards and Stock Register to ensure that these are maintained correctly and properly
Disposing Unusable	• Ensure that the SK prepares a list of unusable commodities of his warehouse and informs the Supervisor in time. • As Member-Secretary of the condemnation committee, place the file to the authorities for their consent to convene a meeting of the condemnation committee. • Issue notice of meeting to the condemnation committee members at least one week before the meeting. Prepare the proceedings of the meeting, obtain signatures of the members present in the meeting and send proposal in the

	prescribed form to the competent authority to get his approval for condemnation. • Condemn all the approved unusable commodities of his warehouse in the presence of the condemnation committee members. • Ensure that the SK has recorded all the condemned commodities properly in the stock register and bin cards and reported them correctly in the monthly report
Monitoring and Supervision	As head of the warehouse, the Director CW&S/ DPWO/ EDO Health/ DHO/ District Coordinator, LHW will; • Routinely monitor the activities of the warehouse staff to ensure that each individual staff completes his assignment as per schedule. • Supervise the employees to ensure that they have the correct knowledge and skills required to perform their assignments. • Provide on-job training if any knowledge and skill deficiency is identified. • Provide supportive supervision to the staff.
Reporting	• Regularly review reports received from the lower level and send feedback if there are any mistakes, or give suggestions for improvement. • Ensure that the SK prepares all reports on time and submits for review and approval. • Review and approve reports prepared by the SK and ensure that reports are mailed to the appropriate authorities on time.
Conducting Physical Verification	As Member –Secretary of annual physical verification committee, • Convene meeting of the committee to conduct annual physical verification of warehouse. • Ensure that the members receive notice at least one week prior to conducting the physical verification. • Notify the facilities that receive commodities from the warehouse that during physical verification, there will be no transaction of commodities. • If a discrepancy is identified during physical verification, make the necessary adjustment following the prescribed procedures. • If any new unusable commodity is identified during the physical verification, segregate the unusable from the usable and store them at a place marked for unusable. • Properly record the unusable in stock register and other relevant forms. • Use physical verification instrument to record finding of physical inventory and obtain signatures of committee members. • Report findings of physical verification to the appropriate authorities. • Preserve a signed copy of physical verification instrument in the file for record.

	• Ensure that the SK regularly conducts sample physical verification and keeps the authorities informed on the findings.

Responsibilities of Store Keeper/ Family Welfare Worker/ Lady Health Worker/ Lady Health Visitor

Table 3.7.3: The Roles and responsibilities SK/FWW/LHW/LHV

Task	Responsibilities
Receiving	• Receive all commodities and ensuring that the quantity mentioned in invoice/IRV is delivered. • Make sure that all commodities received are in good condition • Bring to the notice of the designated officer-in-charge if any commodity is found broken or damaged, or if there is any shortage or excess. • Make sure that the commodities received from the received have adequate shelf life. • Sign copies of invoice/IRV that are sent with commodities and bring them to the designated officer-in-charge for counter signatures. • Return the countersigned copies of invoice/IRV to the supply source. • Preserve the first copy of invoice/IRV in the warehouse.
Storing	• Allocate and mark the storage space according to efficient store layout principles. • Place storage cabinet/shelves and equipment at the marked places for different commodities. • Arrange commodities following FEFO principle. • Mark boxes and cartons with manufacturing and expiry dates. • Operate the warehouse following the storage guidelines. • From time to time conduct sample physical verification and complete physical verification once a year to be sure that book balance and physical balance matches each other. • Adjust discrepancies, if any, with the approval of the designated officer following procedures and update records
Issuing	• Review contraceptive requisition forms received from District/ Health Facility to examine and determine the issue quantity to the district store/ facility store. • Take the distribution plan to the designated officer for review and approval. • Prepare invoice/IRV according to the approved quantity. • Present the invoice/IRV to the designated officer-in-charge for review and approval. • Supply commodities through private carrier or departmental vehicle or through other means as per the established schedule. • Supply commodities following FEFO principle. • Preserve the acknowledged copies of invoice/IRV in the warehouse

Recording	• Maintain stock registers to record all transactions for all commodities. • Use computer codes given for each items, if any. • Maintain separate bin cards for each item. • Update stock register and bin cards after every transaction. • Record transferor disposal of unusable commodities in the remarks column of the contraceptive stock register. • Use different ink while recording transfer or destroying of unusable commodities in the relevant columns of the stock register. • Use separate bin cards for recording transactions of unusable commodities. • Periodically take the stock register to the designated officer-in-charge for review and making necessary comments.

Handling Unusable	• Report immediately to the designated officer-in-charge if any commodity in the warehouse is identified as unusable.
	• Using issue voucher, separate unusable from the usable stock with the approval of the designated officer-in-charge.
	• Store the unusable stock at a place marked for unusable according to store layout plan.
	• Use different ink to record transactions of unusable commodities in relevant columns of stock register.
	• Use separate bin cards for unusable.
	  • Assist the designated officer to condemn unusable.
	  • Report condemnation of unusable through monthly report forms.

Reporting	• Collect contraceptive consumption data from the concerned health facilities / SDPs on monthly basis (in case of district SK). • Review Monthly report, submitted by the facilities/districts and provide feedback through the designated officer-in-charge, if any corrective action is required by them. • Prepare monthly report on the prescribed form at the beginning of the month. • Submit the completed report to the designated officer-in-charge for review and approval. • Send the approved report to the appropriate authority by 5th working day of each month to the district and by 10th to the provincial headquarter and by 15th to the CW&S. • Upload the contraceptive consumption data into Web-based LMIS by 10th of each month.
Requisitioning	• Prepare quarterly requisition, using integrated CLR-6 format, at end of each quarter. • Obtain the approval of DPWO/ DHO on integrated CLR-6 for quarterly contraceptive requisitioning for the district. • Coordinate with offices of DPWO / DHO for timely submission of integrated CLR-6 to the CW&S. • In case of health facility / SDP, prepare monthly requisition on the prescribed format for submission to the concerned district office

Conducting Physical Verification	• Regularly conduct sample physical inventory so that all the items are covered within the year. • Reorganize store, if needed, to ensure FEFO. • If a discrepancy is identified, adjust records with prior approval of the Designated Officer-In-Charge. • If any new unusable item is identified during physical verifications, immediately segregate it from usable items and store it at the place marked for unusable • Update Stock Registers and Bin Cards.
Maintaining Quality Assurance	• Follow the storage guidelines in operating the store. • Stack commodities following FEFO. • Record manufacturing and expiry date in stock register. • Issue commodities following FEFO principle. • Prepare list of short date commodities and with approval of the designated Officer-In-Charge and supply source, supply the commodities to departmental and governmental facilities before the expiry of shelf life. • Return to supply source commodities that cannot be used with the shelf life period locally. • Keep the store always clean so that it will be free from insects, bugs, etc. • Regularly disinfect the store.(It needs to be done as recommended by the experts)

Annexure

Annexure-I

Public Sector Requisitioning
Contraceptive Requisitioning Form (Integrate CLR-6)

For:_____ _____ Requisition No: _____ Requisition Date: _____

Department of Health											
A- Executive District Officer - EDO Health (Static Facilities including Tertiary Care Hospital)											
S.No	**Description**	**Condom (No.)**	**Oral Pills(M.Cycles)**			**IUD (Pieces)**		**Injectables(Vials)**		**Implant**	**Remarks**
			POP	COC	EC	**Multiload**	**Copper-T**	**Norigest (NET-EN)**	**Megestron (DMPA)**		
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
PART - A (To be filled by Requester)											
A-1	Consumption during the last quarter										
A-2	Stock at the end of last quarter at district Store										
A-3	Stock at the end of last quarter at health outlets										
A-4	Total Stock Available (A2+A3)	0	0	0	0	0	0	0	0	0	
A-5	Desired stock level for 2 quarters (A1x2)	0	0	0	0	0	0	0	0	0	
A-6	Replenishment Requested (A5-A4)	0	0	0	0	0	0	0	0	0	
B - District Program Implementation Unit - DPIU (Community based distribution - LHW Programme)											
PART - A (To be filled by Requester)											
B-1	Consumption during the last quarter										
B-2	Stock at the end of last quarter at district Store										
B-3	Stock at the end of last quarter at health outlets										
B-4	Total Stock Available (B2+B3)	0	0	0	0	0	0	0	0	0	
B-5	Desired stock level for 2 quarters (B1x2)	0	0	0	0	0	0	0	0	0	
B-6	Replenishment Requested (B5-B4)	0	0	0	0	0	0	0	0	0	
C- PPHI/CMIPHC (Static facilities)											

PART - A (To be filled by Requester)											
C-1	Consumption during the last quarter										
C-2	Stock at the end of last quarter at district Store										
C-3	Stock at the end of last quarter at health outlets										
C-4	Total Stock Available (C2+C3)	0	0	0	0	0	0	0	0	0	
C-5	Desired stock level for 2 quarters (C1x2)	0	0	0	0	0	0	0	0	0	
C-6	Replenishment Requested (C5-C4)	0	0	0	0	0	0	0	0	0	
D - Maternal Neonatal & Child Health (MNCH)											
PART - A (To be filled by Requester)											
D-1	Consumption during the last quarter										
D-2	Stock at the end of last quarter at district Store										
D-3	Stock at the end of last quarter at health outlets										
D-4	Total Stock Available (D2+D3)	0	0	0	0	0	0	0	0	0	
D-5	Desired stock level for 2 quarters (D1x2)	0	0	0	0	0	0	0	0	0	
D-6	Replenishment Requested (D5-D4)	0	0	0	0	0	0	0	0	0	
Total Replenishment for DOH		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

S.No	Description	Condom (No.)	Oral Pills(M.Cycles)			IUD (Pieces)		Injectables(Vials)		Implant	Remarks
			POP	COC	EC	Multiload	Copper-T	Norigest (NET-EN)	Megestron (DMPA)		
1	2	3	4	5	6	7	8	9	10	11	12
Population Welfare Department											
E - District Population Welfare Office – DPWO											
PART - A & B (To be filled by Requester) - Part –A											
1	Avg. quarterly sale on the basis of last three months consumption										
2	Sale/Use Last Month										
3	Amount of sales proceeds deposited in bank/treasury (Attach original paid challan)										
4	Bank/Treasury challan no. & Date										
PART – B											
E-1	Consumption during the last quarter										
E-2	Stock at the end of last quarter at district Store										
E-3	Stock at the end of last quarter at population outlets										
E-4	Total Stock Available (E2+E3)	0	0	0	0	0	0	0	0	0	
E-5	Desired stock level for 2 quarters (E1x2)	0	0	0	0	0	0	0	0	0	
E-6	Replenishment Requested (E5-E4)	0	0	0	0	0	0	0	0	0	
F - Reproductive Health Centers (RHS-A)											
PART - A & B (To be filled by Requester) - Part –A											
1	Avg. quarterly sale on the basis of last three months consumption										
2	Sale/Use Last Month										
3	Amount of sales proceeds deposited in bank/treasury (Attach original paid challan)										
4	Bank/Treasury challan no. & Date										

PART – B											
F-1	Consumption during the last quarter										
F-2	Stock at the end of last quarter at district Store										
F-3	Stock at the end of last quarter at health outlets										
F-4	Total Stock Available (F2+F3)	0	0	0	0	0	0	0	0	0	
F-5	Desired stock level for 2 quarters (F1x2)	0	0	0	0	0	0	0	0	0	
F-6	Replenishment Requested (F5-F4)	0	0	0	0	0	0	0	0	0	
G - Mariestopes International (MSI)											
PART - A & B (To be filled by Requester) - Part –A											
1	Avg. quarterly sale on the basis of last three months consumption										
2	Sale/Use Last Month										
3	Amount of sales proceeds deposited in bank/treasury (Attach original paid challan)										
4	Bank/Treasury challan no. & Date										
PART – B											
G-1	Consumption during the last quarter										
G-2	Stock at the end of last quarter at district Store										
G-3	Stock at the end of last quarter at health outlets										
G-4	Total Stock Available (G2+G3)	0	0	0	0	0	0	0	0	0	
G-5	Desired stock level for 2 quarters (G1x2)	0	0	0	0	0	0	0	0	0	
G-6	Replenishment Requested (G5-G4)	0	0	0	0	0	0	0	0	0	
H - Family Planning Association of Pakistan (FPAP)											
PART - A & B (To be filled by Requester) - Part –A											
1	Avg. quarterly sale on the basis of last three months consumption										
2	Sale/Use Last Month										
3	Amount of sales proceeds deposited in bank/treasury (Attach original paid challan)										

4	Bank/Treasury challan no. & Date										
PART – B											
H-1	Consumption during the last quarter										
H-2	Stock at the end of last quarter at district Store										
H-3	Stock at the end of last quarter at health outlets										
H-4	Total Stock Available (H2+H3)	0	0	0	0	0	0	0	0	0	
H-5	Desired stock level for 2 quarters (H1x2)	0	0	0	0	0	0	0	0	0	
H-6	Replenishment Requested (H5-H4)	0	0	0	0	0	0	0	0	0	
Total Replenishment for PWD		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Grand Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
PART - B (To be filled at warehouse)											
7	Quantity Approved										
8	Relevant Issue Voucher										

Annexure-II

CYP Conversion Factors

S. No	Method	CYP	S. No	Method	CYP
1	IUD (Copper-T 380-A)	4.6 CYP	10	Monthly Vaginal Ring/Patch	15 units
2	3 year implant	2.5 CYP	11	Multiload	3.5 CYP
3	4 year implant	3.2 CYP	12	Noristerat (NET-En) Injectable	6 doses
4	5 year implant	3.8 CYP	13	Oral Contraceptives	15 cycles
5	5 year IUD (e.g. LNG-IUS)	3.3 CYP	14	Vaginal Foaming Tablets	120 units
6	Condoms (Male and Female)	120 units	15	Fertility Awareness Methods	1.5 CYP/ trained adopter
7	Cyclofem Monthly Injectable	13 doses	16	LAM	.25 CYP/ user
8	DMPA Injectable (3 months)	4 doses	17	Standard Days Method	1.5 CYP/ trained adopter
9	Emergency Contraception	20 doses	18	Sterilization	10 for Pakistan