



# Facilitator's Guide for Storage and Inventory Control

By EDSP in Collaboration  
with DFID and WHO







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(Final Draft)

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*Emergency Drugs Supply Project of TheNetwork for Consumer Protection in Pakistan  
for  
Government of NWFP & Balochistan*

EDSP is committed towards strengthening of the drug management system in Pakistan.

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# Preface

There is an imperative need for improvement in drugs dispensing and storage practices in our country. A baseline survey conducted by the Emergency Drug Supply Project for NWFP and Baluchistan illustrates that dispensing and storage practices are not satisfactory for both the provinces. Medicines lose their efficacy due to poor storage practices and when these medicines are dispensed they do not produce desired outcome. This leads to poor treatment outcomes and unsatisfied clients. Appropriate steps like development of Standard Operating Procedures (SOPs) and training modules for concerned staff are required to improve the existing conditions.

This document aims to serve as a guide for facilitators who shall be conducting trainings to the staff involved in storage of medicines. It is to be used in combination with teaching aides as well as the printed Standard Operating Procedures for Good storage practices. The trainers/facilitators can benefit from the teaching aides that include power point presentations/overhead transparencies and videos/CD recordings detailing the standard operating procedures. The training module contains different sessions; at the beginning of each session, materials required and teaching aides to be used are also listed.

It is expected that this guide will prove to be a helpful tool for facilitators in conducting trainings that aim to upgrade the drugs storage practices in Pakistan.



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# Summary of findings

## Survey on prescription, dispensing and storage practices

Emergency drug supply project for NWFP and Baluchistan, aims to supply, monitor and improve drug usage and management, in the targeted facilities of the above provinces. The Technical Assistance (TA) component is responsible for provision of relevant technical advice and input towards this end. EDSP has conducted an extensive survey to collect information about the existing practices, over last one month.

Objectives: To gather information on existing patterns of various dimensions of drug use and management in health services of the NWFP and Baluchistan province, including:

1. Prescription practices.
2. Dispensing practices
3. Client satisfaction (with particular reference to dispensing)
4. Store keeping and storage procedures.

A cross sectional study design was used for this purpose. Ten health facilities were selected from each province, and all types of targeted facilities were incorporated in this group including First level health facilities, District Health facilities and Tertiary care hospital. We analyzed various selected indicators according to province, level of health facility, gender, age and prescriber types. A total of 703 encounters were recorded from both the provinces. Fifty five percent of the patients were females and the distribution of encounters between various health facilities was almost equal. Salient features of the survey results are summarized in the chart below:

	Baluchistan	NWFP	Total
Total facilities surveyed	10	10	20
Total encounters	372	331	703
Drugs/prescription (Ave)	2.45	2.85	2.64
Drugs dispensed/ prescription (Ave)	1.50	1.46	1.48
prescriptions with Diagnosis	77%	79%	78.4%
Prescriptions with dose written	88%	96%	92.3%
Antibiotics on prescription (%)	49.7%	49.1%	49.4%
Injections on prescription (%)	8.6%	17.2%	12.6%
Dispensing with dose description (%)	91%	79%	86.3%
Dispensing time/patient (Ave)	24.8sec	50.3sec	34.4sec
Patients knowing dose (%)	46.2%	73.9%	57%
Dispensing with validation (%)	93%	92.5%	92.8%
Satisfaction of patients (%)	40.1%	80.5%	58.4%
Consultation time (Ave)	1.7min	1.96min	1.81min

A brief summary of the findings is as follows:

- ◆ Average number of drugs / prescription is high in both provinces
- ◆ Antibiotics are prescribed liberally, more so by doctors at larger facilities.
- ◆ Use of injections is more common in NWFP, smaller facilities, younger age group and males.
- ◆ 25% of prescriptions lack a diagnosis.
- ◆ Prescribing practices leave much to be desired in both the provinces.
- ◆ Average dispensing time is only 34.4 seconds, which is very inadequate for good dispensing.
- ◆ Dispensing time was much lesser in Baluchistan as compared to NWFP
- ◆ Dispensing time had direct relation to patient's knowledge of dosage and satisfaction with the visit
- ◆ The components of dispensing assessed including
  - Assessment of prescription
  - Preparation of prescription
  - communication with the patientcompared poorly with the required standards.
- ◆ Dispensers have absolutely no idea regarding certain essential parts of dispensing like preparation and labeling of drugs
- ◆ The number of drugs dispensed is on the average 1.2 drugs per prescription, short of the number prescribed.
- ◆ Only 57% patients have adequate knowledge of the dosage of their drugs
- ◆ The dispenser's communication with the patient is particularly poor
- ◆ The preparation of prescriptions by dispensers is unhygienic and prone to mistakes
- ◆ The dispensers lack adequate basic and continuing training
- ◆ Record keeping is not appropriate
- ◆ Average consultation time is only 1.81 minutes.
- ◆ Only 57% patients are satisfied with their visit to health facility
- ◆ The satisfaction is improved proportionately with the following:
  1. The number of drugs dispensed
  2. The dispensing time
  3. The consultation time
  4. Communication of dosage to patient
  5. And being in NWFP
- ◆ The storage conditions are not satisfactory including temperature, hygiene and pest control
- ◆ The drug procurement procedures are well established except at a few places.
- ◆ A manual for procedures and responsibilities is not available at 90% of the facilities
- ◆ Bin cards are not being utilized
- ◆ Stock auditing is satisfactory at 90% sites
- ◆ Stock handling is not uniform particularly dealing with expired drugs is a problem.
- ◆ Refrigerator is not working in 60% of facilities and temperature chart is only being maintained at 17% places
- ◆ Essential drug list is only available at a few facilities

## Conclusion and recommendations

- ◆ Prescription, dispensing and storage practices are not satisfactory in both the provinces.
- ◆ Appropriate steps like development of standard operation procedures (SOPs) for dispensing, storage and guidelines for development of formulary, by involving relevant stake holders, are required.
- ◆ In-service training schedules need to be developed and practiced
- ◆ Health ministries, NGO's, WHO and others should address the issue in a coherent manner so that interventions remain sustainable
- ◆ A post intervention assessment should be carried out to assess the impact.
- ◆ Regular prescription and other types of audits should become part of the system
- ◆ Better performers should be rewarded with incentives to improve the output of the system

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# Standard Operating Procedures for Storage and Inventory Control

## Venue selection and settings

Venue should be selected very carefully keeping in mind that it should be conveniently located and easily accessible through public transport. It should not be located near a public office or major health facility because it can create disturbances during the proceedings of the sessions. The room/hall selected should be big enough for accommodating 25 to 30 participants; it should be in a quiet portion of the building and should have adequate arrangements for heating/cooling. The seating arrangement should be arranged for an interactive session preferably around a U shaped table. It is suggested that name and designation of the participants should be displayed in front of his/her seat before the start of the session.

## General considerations

- ◆ This workshop is for one day and consists of 2 sessions.
- ◆ Timing is critical in this workshop. It should be ensured that the sessions should start at the allocated time and discussions should not be allowed to continue to a point where they go beyond the specified time.
- ◆ Tea breaks must be only for the time allocated.
- ◆ It is expected that the trainers have gone through the SOPs in detail and have imbibed them before the workshop.
- ◆ The copies of Urdu or English SOPs should be dispatched to the intended participants well in time so that they should have enough opportunity to read through them before attending.
- ◆ Ensure that all the electrical devices and switches are working properly; familiarize yourself with them before the start of the session.
- ◆ The lecturers should use the notes as a guide but not read them verbatim. They should select what they feel is relevant to the workshop.
- ◆ The sessions should be as interactive as possible. Didactic lecturing is strongly discouraged. Every effort should be made to make the sessions interesting.
- ◆ Say a few words about group dynamics during such workshops with examples.
- ◆ Do switch off your mobile and ask the participants to do the same.
- ◆ The trainees' manuals are in Urdu language but use of local language for discussion is encouraged for better understanding.
- ◆ Before every step, the participants should be invited to give their input on the prevailing practices and the preferred method.
- ◆ Facilitator can sort out remedial measures for any problem at regional/local level.

*The instructions for facilitators are given in italics in this guide with the symbol or text boxes have been inserted*

# Session - 1 (Estimated time required: 90 minutes)

## Material required

Over Head Projector  
TV and VCR  
(Laptop computer and multimedia projector, if available)  
Flip charts  
Flip chart board  
Markers  
Specimen of:  
    Bin card  
    Stock register  
    Inspection committee report

## Teaching aids

VCR demo film (CD with demo film) Storage practice and Inventory Control  
Transparencies provided by EDSP  
Facilitator guide  
Trainees guides (English or Urdu for all the trainees)

## Objectives of the session

By the end of the session the participants would be expected to know:

1. Definitions of all the related terminologies.
2. Criteria for storekeeper selection.
3. How to implement Standard Operating Procedures.
4. The basic information sources.
5. Frequently occurring errors while dispensing.
6. The skills required for training at grass root level.

## Introductions:

*☞ This is intended to be an ice breaking session between the facilitator and the participants. Introduce yourself and then ask each individual to tell something about himself/herself. Eight to ten minutes can be spent here.*

## Film "Bad Store":

*☞ The session should then be started by playing the clip on wrong bad storage practices from the provided video*

## Background

*☞ At the end of the film the facilitator should make use of the information on existing practices shown to the audience to build an argument regarding the necessity of the development of SOPs on Storage and inventory control. Here it is also relevant to briefly narrate the background of the EDSP survey and the process of development of SOPs.*

Emergency Drug Supply Project for NWFP and Balochistan aims to supply, monitor and improve drug usage and management. The technical assistance (TA) component is responsible for the provision of relevant technical advice and input towards this end. EDSP conducted a study to collect information about the existing practices of various dimensions of drug use and management in health services of NWFP and Balochistan. The objective of the study was to gain knowledge about existing practices pertaining to use, dispensing, storage and client satisfaction. A cross sectional study design was used for this purpose. Appropriate sample size, which included all types of targeted facilities, were selected for the study, including first level health facilities, district health facilities and tertiary care hospitals. A total of 703 encounters were recorded from both provinces. Various selected indicators were analyzed according to province, level of health facility, gender, age and prescriber types.

Findings of the data analysis showed that substandard storage conditions were prevailing in both the provinces. The components of storage and inventory control compared very poorly with the required standards. The storekeepers lacked adequate basic and continuing training. Moreover, record keeping was also not appropriate.

The EDSP has developed the SOPs for the storage practices, which include the primary training of the storekeepers to improve the quality of the health care delivery system and drug storage. This would certainly improve the quality assurance. The primary responsibility to implement this system is on the policy makers, health care managers, EDOs and the MS of a particular health care facility. In addition to that the store incharge have to play their vital role in improving the system because they interact directly with the storage practices and inventory control.

This is for the first time that SOP's have been developed in the public sector with the help of stakeholders. Medicine worth billions of rupees are procured and stored in public sector without following any standard procedures resulting in wastage of resources and loss of trust of patients in public health system. Even the store keeper does not know about the Good Storage Practices and Inventory Control and imagine the plight of the medicine stored in these substandard storage facilities. Due to these reasons the efficacy of drugs is not up to the standard and treatment outcome is poor.

## Frequent errors:

*The facilitator should ask the participants about various wrong practices carried out in storage and inventory control. A list of such errors should then be prepared on the flip charts. This list can then be compared with the one provided below and any new additions should be noted down for addition to the existing list later on. This participation of the audience in the training material should then be highlighted to give a sense of ownership to the participants.*

## Frequent wrong practices during storage and inventory control.

- ◆ Defective Layout
- ◆ Erratic ordering of drugs
- ◆ Improper receiving of stocks
- ◆ At the time of receiving, stock's temperature not maintained during transportation
- ◆ Stocks not received and placed quarantine area
- ◆ Absence of Inspection team or defective inspection team
- ◆ Improper positioning and placing of stocks
- ◆ Defective record keeping
- ◆ Absence/incomplete Bin Cards/Stock Cards
- ◆ Absence of verification/counter signature of store incharge
- ◆ Absence of Temperature log/control
- ◆ Defective system for control drugs storage and issuance
- ◆ Security problems

### 1. Purpose of SOPs:

- ◆ To improve the quality of existing storage practices of medical supplies.
- ◆ To improve the capacity of staff involved in drug management.
- ◆ To keep the medicines effective and potent at all levels of health care delivery system.

### 2. Scope:

- ◆ Medicine stores of primary, secondary and tertiary level health care facilities.

### 3. Responsibilities:

- ◆ Storekeepers/Dispensers
- ◆ DMS (stores)
- ◆ Pharmacist
- ◆ EDO (Health)
- ◆ Policy makers/Healthcare managers



## 4. Definitions:

### ◆ Store

Store is an area allocated for keeping goods for the time being and for further distribution.

### ◆ Temperature Recorder

Equipment used for recording of temperature of any room/Vessel/Container/Refrigerator/Freezer. This can be ordinary room thermometer or automatic temperature recorder which records the temperature 24 hrs a day, 7 days a week and 365 days a year.

### ◆ Room Temperature 15 - 30°C

### ◆ Cool Temperature 10 - 20 ° C

### ◆ Cold Temperature 2 - 8 ° C

### ◆ Freezing Temperature -20 - (-10) ° C

### ◆ Temperature log

Is a chart / document on which temperature is recorded manually or automatically after certain intervals of time or continuously (in case of automatic)

### ◆ Storage Tools

*☞ These should be explained with the help of available photographs/materials*

1. Pallets
2. Racks
3. Exhaust Fans/Ceiling Fans
4. Refrigerator
5. Air Conditioner
6. Temperature Recorder
7. Temperature Log
8. Generator
9. Fire Fighting Equipment
10. Mouse Traps
11. Stock Registers
12. Issue Registers
13. Indent Forms
14. Type Writers/Computer with Printer
15. Claim Forms
16. Defective Product Report Form
17. Expiry Calendar



- ◆ **Manufacturing Date:**  
The date when a product is manufactured
- ◆ **Expiry Date:**  
The date after which any product should not be used in any case
- ◆ **Storekeepers**  
Storekeeper is a person who is responsible to look after each and every item kept in the store
- ◆ **Pharmacist**  
Pharmacist is the person who is an expert on drugs/medicines; he/she uses knowledge to maximize treatment outcomes, procurement, preservation, storage, compounding, manufacturing, controlling, issuing, dispensing and distribution of medication to hospitalized and ambulatory patients and provides unbiased drug information to health professionals and patients/care providers.
- ◆ **Pallets**  
Pallets are rack-like shelves present in the store that may be either wooden or metallic. The boxes or cartons are placed / stacked on them. Pallets are usually at 4-6 inches in height from the ground. This allows better cleaning of floors and easy lifting of cartons.
- ◆ **Racks**  
The racks serve to store items separately. The racks may be wooden or metallic.
- ◆ **Shelves**  
The racks are provided with shelves so that the items could be stored easily and separately.
- ◆ **Quarantine Facility**  
Quarantine is an area where received stocks are placed before qualitative and quantitative inspection is performed as per specifications mentioned in the purchase order.
- ◆ **Purchase Committee**  
A committee constituted for the purchase of medicines in demand and other articles. This committee is comprised of pharmacists, one physician, one surgeon, budget and account officer and a representative of the administration. This committee will make purchases as per specifications developed / mentioned by the Pharmacy and Therapeutic Committee of the health care facility.
- ◆ **Inspection Committee**  
Inspection committee includes a minimum of three members with at least one pharmacist having sufficient knowledge about the purchased medicines / articles. Its members should be different from

those in the purchase committee.

◆ **Stock Register**

A register in which all the received stock is entered by name of the medicine, strength, date of receiving, expiry date and from where it is received.

◆ **Indent**

Demand / request book for the issuance of medicines / articles from the store.

◆ **Invoice**

Invoice is the paper received with stock, which includes specifications of the products supplied by the supplier and the price with warranty.

◆ **Hygroscopic**

Those compounds/medicines/drugs which absorb moisture from air at normal moisture level, like Ammonium Chloride Powder, vitamin C Tablets, Aspirin Tablets etc. These products need extra care during storage to maintain their potency/stability.

◆ **Desiccators**

Are those compounds which absorb moisture from the medicine container, these are small bags usually present in bottles containing hygroscopic tablets e.g. Silica Gel.

*☞ The following terms should preferably be explained during the relevant sections later on in the sessions*

◆ **Maximum Stock Level**

It is the level of stock approved by the authorities to be in stock at any health facility according to their requirement keeping in view seasonal variation and disease pattern.

Maximum stock level = Minimum stock level + Reorder level.

◆ **Reorder level**

It is the stock level where new order for the stock is placed

Reorder level = Minimum stock level + buffer stock

◆ **Minimum stock level**

The level of stock where intervention is needed to plan the issuance of stock

◆ **Lead Time**

Time between the ordering and receiving of stock

◆ **Buffer Stock**

Stocks used during the lead time

◆ **Critical Stock level**

It is the stock level at which the issuance is stopped and under very special circumstances i.e. disasters/ war etc.

◆ **Shelf life**

The period/time between the date of manufacturing and the date of expiry of the drug

$$\text{Percentage of shelf life} = \frac{\text{Remaining period before the expiry of drug}}{\text{Total time period between manufacturing date and expiry date}} \times 100$$

◆ **Claim Form**

The performa filled by the store keeper at the time of receiving of stocks in case of any deficiency/breakage and handed over to suppliers or their representative.

◆ **Defective Product Report Form**

This form is provided by the stores to the issuing places for informing the store of any defective product received

◆ **Expiry Calendar**

It is a calendar, with the help of which, the store keeper/store incharge can check the drugs expiring in the coming months, at one glance. (Sample is annexed).

◆ **FIFO**

First in first out.  
(Stocks received first should be issued first)

◆ **FEFO**

First expiry first out.  
(Stocks that are expiring first should be issued first)

◆ **LMIS**

Logistic Management Information System.

◆ **Batch number**

Quantity of medicines/articles in which all processes are completed in one single cycle. In one batch quality remains the same/homogeneous.

## 5. Procedure:

### 5.1 General Layout:

*☞ Ask the participants about the present storage conditions in their facilities and provide them WHO's model store specifications/plan emphasis on importance of layout with reference to quality assurance of drugs*

- a. Roof should be leak proof and constructed keeping in view the climate and condition of the area. A leaking roof may allow water to drip on the stocks resulting in spoilage of cartons, packaging, labels etc. Further more, it influences the temperature inside the store.
- b. Rain/flood water should not enter the store and all those items, which can be affected by water, should be stored at a higher level in the store. Almost all the medicines and materials are packed in cartons made of paper that is not resistant to water and moisture. If the rainwater enters the stores, it will damage the stocks on the lower level. On absorption of water, the cartons may become limp and the stack may fall down, which could damage the glass bottles and other fragile packing.
- c. The store flooring should be high from the ground level, enough to avoid entering of water during rains and floods. Whenever stores are acquired, special attention should be paid to the floor level. The level of the store's floor should be high enough that in any case of emergency, storms, floods etc. the water does not enter the stores.
- d. The store should have the capacity to keep the stocks separately i.e. medicines, linen, disposable items, medical gasses, chemicals and condemned items as specified on their labels. If the store's capacity is less than the stocks to be stored, it will result in the muddling of stacks, mixing of stocks, and handling and maintenance problems.
- e. Metallic (painted) pallets are advised for the stacking of stocks. Metallic pallets are preferably advised for stacking purposes. The metallic pallets are also good but they are expensive and heavy in handling. Stacking of supplies on pallets helps in case of accidental entry of water, moisture, and termite attacks etc.
- f. Sunlight should not enter directly in the store. The sunlight contains rays, exposure to which can affect the efficacy of the medicines. Furthermore, entry of direct sunlight also affects the maintenance of required temperature. However, every effort should be made to provide entry of sufficient natural light in the store.
- g. The store must be well ventilated. The standard store should have safe windows, exhaust fans and ventilators to allow the cross ventilation and air conditioners to control the temperature (wherever required). Circulation of air in the stores helps in reducing moisture, termites, bad

smells, humidity and suffocation. Electricity failure is a common phenomenon; the electricity cost can be reduced if the stores are properly ventilated. All the stores, at least those in teaching hospitals & DHQ hospitals should have air-conditioning facility to regulate the temperature throughout the year, as storage temperature has a strong influence on the quality of medicines, X ray films etc.

- h. Floor of the store must be cemented (pakka) /vinyl flooring and absolutely flat. The corners of the store walls and roof (wall to wall, wall to roof) should be angled sharply. Mud floors always contain moisture and also erode with the passage of time. Further, soil deterioration may cause disarray / unbalancing of the stacks. The cartons packing always have the tendency to absorb moisture, therefore cemented stores should be the first priority.
- i. Store should be kept very clean and tidy. Clean environment generates a good impression and makes the place congenial for working. Further, if the store is not clean, it may invite insects, rats and other creatures.
- j. Whitewash should be arranged periodically (preferably once a year) Whitewash in regular intervals helps in reducing the colonies of germs, spiders and cobwebs. Further, the smell developed in stores with the passage of time due to spillage of syrups etc can also be eliminated with regular white wash.
- k. Store must have palettes, racks/shelves and almirah available. Pallets, preferably metallic, are the prerequisite of a good store. They help in straight stacking, demarcation of stacks, prevent moisture and termites. Racks and shelves are required for medicines that are expensive and are in small quantities. Double locked cupboards / almirahs should be made available in the store for narcotics, intoxicants, expensive life saving drugs etc.
- l. Appropriate fire fighting equipments including extinguishers, sand buckets, water heads, fire alarms / smoke alarms / detectors in good working condition must be available in the store. Fire breaks in the stores usually due to short circuits, careless disposal of live cigarette butts etc, therefore, the fire extinguishers should be selected to cope up with any type of fire. These fire extinguishers must be maintained in good working condition with display of type, date of filling and expiry. Furthermore, the store staff should be aware of how to use the fire equipment. Necessary fire drills under the supervision of a qualified person should be conducted on regular intervals to keep the knowledge of the staff fresh. Effective and sensitive smoke and fire detectors and alarms should also be installed in the stores to draw attention of concerned people in any case of smoke and fire.
- m. Temperature / humidity recording machine should be available and temperature log must be maintained for the room and the refrigerators / freezers. This helps in the maintenance of required standards according to which the remedial action for saving drugs can be initiated.

- n. The store should have safety signs clearly displayed. No smoking, don't spit, no flames, no entry of unauthorized personnel etc. signs should be displayed in stores. If the store has the categories, they should be clearly mentioned i.e. Intoxicants, Narcotics, Highly Inflammables etc. All the corrosive chemicals / acids / alkalis should be stored in safe wooden / painted metal racks in double jacket bottles. In case the facility is not equipped with the above mentioned conditions, then all such articles should be kept in wooden crates filled with sand.
- o. Narcotics (Morphine, Pethedine) shall be kept under strict supervision of the in-charge of the pharmacy. Narcotics and intoxicating agents should be in the safe custody of the store's in-charge. The daily opening and closing, counting of the stocks and entering in the logbook, preferably in the presence of another person's witness, helps in avoiding pilferage and misuse of the narcotics.
- p. Space should be provided for used vials/ampoules/bottles. Separate space should be allocated for storage of used vials/ampoules/bottles to avoid pilferage and recycling. In addition to the space, machinery/equipment should also be installed to properly dispose off the vials/ampoules/bottles.
- q. Mousetraps should be installed in stores. Rats are rodents that cannot be stopped from entering the stores. Rats damage cartons and medicines. It is advised that instead of rat killing medicines, mousetraps should be used to trap rats and other crawling creatures.
- r. At the time of closing, the stores should be locked (sealed wherever required: depends on the situation and the kind of stock e.g. controlled drugs) in the presence of the store's in-charge. If padlocks are used, paper or other delicate materials should be wrapped around the lock, signed on the joint and sealed by a sealer. Store closing and opening time sheet should also be used. This practice helps in reducing theft and pilferage in case of duplicate keys.
- s. Refrigerator should be available in the store to keep specialized items. Specialized items like biological and life saving drugs need proper cold chain storage to maintain the potency. A specifically designed storage refrigerator should be dedicated to vaccines and life saving medicines. Domestic refrigerators are not recommended. There may be a need for an auxiliary vaccine storage refrigerator / ice liner to cover periods of particularly high usage (e.g. the influenza immunization period). Standby arrangements (generator) should be made available to be used in case of power shut down.

## 5.2 Ordering Drugs:

*☞ Ask the participants about the steps necessary for ordering drugs and discuss their experiences and invite suggestions*

- a. To make an order, the store in-charge must know:
  - i. The stock position of the store.
  - ii. Supply period, how often order can be placed (weekly, monthly, quarterly or yearly).
  - iii. Monthly consumption of each item (keeping in view the seasonal variations and changes in patterns of consumption in the facility with respect to expertise available)
  - iv. Delivery time, store in-charge must have information about the time required between generation of demand and receiving of stock.
- b. Minimum stock level\* is that level after which the in-charge has to take measures to avoid the stock from running out completely. These measures can include issuing for only emergency purposes, if he does not receive new stock.
- c. Reorder level\* is the level of stock at which the in-charge has to place a new order for supply of stocks. This can be calculated by minimum stock level + stock use during delivery time.
- d. Store in-charge will not place any order that crosses the maximum stock level\*. This can be calculated by: reorder level + order of quantity. This will help to avoid any article from expiring / over stocking.
- e. Order quantity must comply with the difference between reorder level and maximum stock level. This is also the quantity used during one delivery time.

## 5.3 Stock Receiving

*☞ Ask the participants about the steps necessary for stock receiving and discuss their experience and invite suggestions*

- a. After placing the demand / procurement under the guidelines for making the demand.

Prior to purchasing or placing the demand, storekeeper inputs should be taken to verify stock position. Storekeeper makes the demand at the reorder levels of stocks (already set for that product)

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\* Refer to the definitions' section and explain the definition at this point

- b. On receiving the stock, it should be placed in the quarantine area and the storekeeper will record the condition / temperature of supplied stock. In case of specific conditions, he will also verify whether the transporting vehicle / container were according to the specifications of product transportation. (For maintenance of cold chain). At this point no entry should be made in the stock register.
- c. The storekeeper will match the specifications of the supplied stock with purchase order / supply order specifications e.g. brand name, strength, and dosage form, manufacturer's name etc. Most important is the shelf life\*. He will keep the received stock in quarantine area, especially marked for this purpose. Supplied stock should be kept in quarantine in such a way that its quality does not deteriorate.
- d. The storekeeper will report to the inspection committee for stock arrival and make arrangements for inspection. This inspection committee especially constituted for inspection of received stock should not include any person from store / purchase committee to avoid any conflict of interest.
- e. Inspection committee\* will inspect the supplied stock as per their SOPs by considering things like shelf life, quantity, physical quality etc and issue the inspection certificate of acceptance or rejection of supplied stock preferably in the presence of supplier / representative. Inspection committee can ask to send the samples of supplies for quality testing / analysis to any recognized laboratory.
- f. In case of committee's issue acceptance certificate, the stocks will be shifted from quarantine to store area. In case of any deficiency/brakeage, store keeper will fill a claim form and handover to supplier's representative who should be presented at the time of inspection/receiving of stocks at least at supplies at EDO level or hospital where stocks are directly received from suppliers.
- g. On receipt of the item and its endorsement in the stock register, the entries of all columns are made as mentioned in the standard stock register (as standardized in HMIS).
- h. Stock Register\* should be properly maintained for all the items, which are being received in the store. Any material, against which the payment has been made, needs to be entered in the record and every entry will be countersigned by the pharmacist/DMS (if pharmacist is not available). The stock register is the basic record in which all the received and stored items and all the transactions of the items in store are registered. The stock register should reflect a clear-cut picture of all the transactions made, whether they are received, issued or discarded. Items received along with dates, quantity, manufactured / supplied by, supply order number, invoices and delivery challan numbers, date of manufacture and expiry, number of batches with DOM and DOE should be entered properly. This practice helps in reducing file works,

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\* Refer to the definitions' section and explain the definition at this point



eases the job of pharmacists or store keeper in any case of mishap and while tracing an item. The stock register should carry a certificate reflecting the number of pages in the register. This certificate must be given on a numbered page of the register, signed by the pharmacy in-charge and countersigned by the institution's executive. This is the prerequisite for any register. All the pages in the stock register should have printed numbers. This ensures the safety of the pages of the register and it becomes traceable if pages are torn or taken away from the register. Usually the following statement is used "certified that this stock register contains pages from 001 to 400. All the pages have been checked and found intact". Further if the attesting authority endorses initials on each page of the register, any chance of forgery becomes negligible.

- i. Sufficient number of pages should be available at the beginning of the register for making the index. Index is the quick reference guide for locating items. Index can be made according to the therapeutic nature of the medicines, dosage forms, or alphabetically. Generally, the stock registers are maintained alphabetically, which is a good practice. Maintaining an index helps in quickly locating the page number of medicines without fumbling with the pages.
- j. Different colored pens should be used for different nature of entries. Colored entry system should be adopted for easy checking of records. Receipts should be endorsed with red pen while issuance should be made with blue / black pens. This will make it very easy for an official to differentiate between receipts and issuances. Pharmacist should use green colored pen for countersigning the entries of the stock register (internationally, pharmacists always use a green pen, this helps in identifying the pharmacist's input.)
- k. The following important entries should be mentioned in the stock register while receiving items at the stores.
  - ◆ Date on which the items are received.
  - ◆ Quantity /number of items received in predetermined units and batch number of supplied stock.
  - ◆ The page should be allocated on generic name however the trade name should be given in brackets.
  - ◆ Name of supplier, donor or counterpart that supplied the item, along with the reference number and dates of the delivery challan, invoice and supply order reference.
  - ◆ The storekeeper should sign in front of each entry. The storekeeper will verify the entry by putting initials after every transaction.
  - ◆ The stores in-charge shall verify the issuance or receipt vouchers after confirming the entry and initials of the storekeeper against each transaction and authenticates the entry by putting his initials against every transaction.
  - ◆ Details of batches supplied should be reflected in the stock register.
  - ◆ The date of manufacture and expiry should be written against each batch. This practice helps in tracing the supply in case of any mishap.

- ◆ On receipt of the item and its endorsement in the stock register, the inspection committee should inspect the supplies to check whether the supplies made are in accordance with the terms and conditions of the supply order or not and then issue the inspection certificate.
  - ◆ All entries in the stock register should be self-explanatory. The relevant record of the procured items i.e. supply orders, invoices, delivery chalang etc are filled after stocks are received and payment has been done. Endorsement of each and every detail in the stock register will accelerate thorough checking of records for any query in the future.
- l. Use the checklist while receiving supplies at the store. It should have the following information:
- ◆ Price of the item (s)
  - ◆ Quantity to receive
  - ◆ Number of items received
  - ◆ Number shown in the invoice.
  - ◆ Due date of receipt
  - ◆ Date supply received
  - ◆ Accompanied by invoice/warranty
  - ◆ Received per supply order number and date
  - ◆ Name of manufacturer
  - ◆ Name of supplier
  - ◆ Batch number
  - ◆ Date of manufacturing
  - ◆ Date of expiry
  - ◆ Number of damages/breakage observed
  - ◆ Shelf life of the product

Errors are expected from any human. If the checklists are used, probability of errors can be minimized. Furthermore, the checklist may serve as an instant reference for any query.

- m. A committee should physically verify the stocks and carry out inspections to avoid any inconsistencies in the stores. It will help to keep the record of store up-to-date and all the things in proper order.

## Sources of information

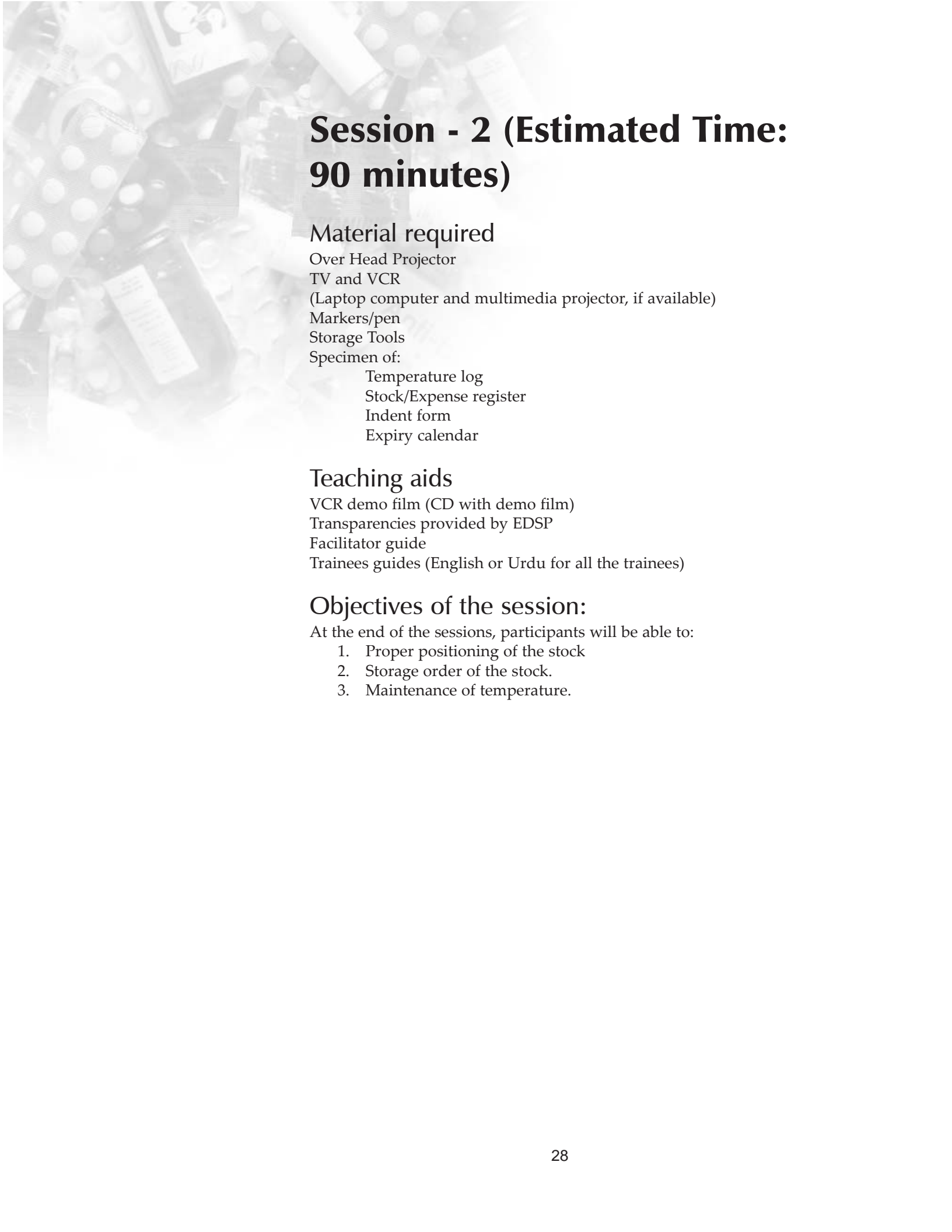
- ◆ British National Formulary (BNF).
- ◆ American Society of Health System Pharmacist (ASHP) guidelines on storage and inventory control.
- ◆ Managing drug supplies.
- ◆ World Health Organization (WHO) guideline on Good Storage Practices.

## Planning for future

*The overall glimpse of the plan to conduct trainings at the provincial level should be discussed very briefly*

- ◆ The provinces of Baluchistan, NWFP and FATA would be included in the program.
- ◆ Master Trainers would hold the responsibility to train the respective dispensers in their districts/allocated areas. EDSP, WHO and the departments of health of the respective provinces would collaborate in the training.

*☞ At the end of the session invite comments and questions for 5-10 minutes.*



## **Session - 2 (Estimated Time: 90 minutes)**

### **Material required**

Over Head Projector

TV and VCR

(Laptop computer and multimedia projector, if available)

Markers/pen

Storage Tools

Specimen of:

Temperature log

Stock/Expense register

Indent form

Expiry calendar

### **Teaching aids**

VCR demo film (CD with demo film)

Transparencies provided by EDSP

Facilitator guide

Trainees guides (English or Urdu for all the trainees)

### **Objectives of the session:**

At the end of the sessions, participants will be able to:

1. Proper positioning of the stock
2. Storage order of the stock.
3. Maintenance of temperature.

## 5.4 Positioning Stock

*☞ Ask the participants about the importance of positioning of stock and their perception about stock positioning*

- a. Cartons of medicines/supplies must be placed on metallic pallets, 3 feet (L) X 3 feet (W) X 4 inches (H) in size. The pallets may vary in size from case to case but the most convenient size of the pallet is given above. The minimum distance between the floor and pallets should be 4 inches. Stacking on pallets helps in easy counting of stocks, keeps them straight, and saves them from moisture and termites.
- b. There should a minimum space of 12 inches between the stacks and the wall. If this distance is not kept it may give rise to formation of cobwebs, moisture, termite attacks etc. Moreover, this space helps in counting, inspecting and maintenance of stacks.
- c. Stacks should be kept straight. There should be no inclination to any side. Every effort should be made to erect the stacks straightly. The cartons have a natural tendency to absorb moisture. If a stack is mildly leaning to one side, with the passage of time the cartons may absorb moisture and the stacks will fall causing damage.
- d. Cartons should be placed in stacks. Height of the stack should not be higher than 6 feet. If the height is more than 6 feet, it becomes difficult to keep the stacks straight. The higher the stack; the more weight would be on the lower cartons, which may cause breakage or leakage. Incase of heavy stocks i.e. I/V fluids Glass bottles height should not be more than three cartons and preferably these should be stored in racks as single carton. Moreover, at the time of dispatch the staff may face difficulties in downloading. In case of heavy articles like infusions, there should not be more than 3 cartons in one stack; otherwise the plastic bottles may be punctured in the lowest carton due to high pressure.
- e. A space of about 3 feet should be maintained between the stacks. This helps the store staff in physical verification, location of batches, loading and unloading etc. If the distance is less than required, loading and unloading would become difficult.
- f. Cartons should be placed right side up so that label is visible and can be read easily. Every effort should be made to keep the carton in upright position. Almost every carton bears the sign of an upward arrow, glass, umbrella etc. to help the staff in keeping the carton in the correct manner. If instructions are not adhered to the syrups may leak, details on the cartons may not be readable etc.
- g. Each and every stock should have bin cards. Bin card is the mirror of the stack. Bin card is the instant reference guide of all the transactions that take place in the particular stock. If there are different batches in

one item, separate bin cards must be displayed with one master bin card. These may be placed on the stacks, on shelves and/or on racks. Bin cards should reflect the following essential information.

1. Name of the item in generic; brand name in brackets with strength.
  2. Date when the item was received.
  3. Quantity of the stock received.
  4. Batch number of stock
  5. Minimum stock level
  6. Reorder level
  7. Maximum stock level
  8. Date of manufacture and expiry
  9. Date and quantity of items issued out of stock
  10. Balance
  11. Sign of in-charge
- h. All entries regarding receipt and issue should carry initials of the store-keeper and duly authenticated by the in-charge of pharmacy/store on the bin card, after physical checking / verification after every 15-30 days. Properly maintained bin card become a duplicate record of the stock register. If every entry is properly endorsed, signed and counter-signed, it may help in endorsing proper entries in the stock register.
- i. The balance shown on the bin card must correspond with the balance in the stock register and the physical balance of the stock. As discussed earlier, the bin card is a mirror of the stock and a duplicate record. If the physical balance does not tally with stock register or bin card, it shows missing of entry or less or over issuance, which can be rectified at the earlier stage. Therefore, the bin card should be updated with regular intervals (daily, weekly, fortnightly, monthly), keeping in view the number of personnel in the store, workload and pace of transactions.
- j. There should be a policy of making up of stock differences between physical stock and theoretical. It is practically impossible that the physical and theoretical stocks match every time because of many factors. For this purpose, tolerance levels can be set for different categories of different dosage forms. This recommendation is subject to the approval of authority.
- k. All stocks present in the store should be defaced to avoid any pilferage.

## 5.5 Storage Order of the Stock

*☞ Ask the participants what they think should be the storage order of the stock and discuss their experiences and invite suggestions*

- a. Medicines should be kept in a separate store. The medicines store should be remote and separate from stores of other usable commodities, pesticides, inflammables etc. The categorization of stores helps in taking precautionary measures, safety of stocks and working condi-

tions for the store officials.

- b. The order of storing various medicines should be in therapeutic or alphabetical order, or based on utilization or as convenient. The chemist shop contains a variety of medicines but chemists do not find any difficulty in locating any medicines because they are kept in a certain order. It might be alphabetical, therapeutic or category wise. If the stores are maintained in any sequence, it helps in locating the medicines and eliminates wastage of time.
- c. The medicines should be positioned, based on the principle of FIFO\* (First in first out) and FEFO\* (First expiry first out). FEFO method should be applied in case of different batches having different expiries. Optimum efforts should be made to consume the stocks, which have earlier expiries, and they should be stored in a manner that the items with earlier expiry items should be issued on first priority.
- d. Insecticides, chemicals and other fluids should be kept in a separate room. Insecticides and chemicals are usually highly inflammable items and cause bad smell when they vaporize. The vapors of these chemicals may affect the medicines and can cause problems for the store's staff. Therefore, the chemical stores must have very good ventilation systems, fire extinguishers, facemasks and items for first aid.
- e. Expired materials, un-usable machinery and equipment should be placed in separate rooms. The expired materials and unusable machinery and equipments are usually dumped and no care is taken to maintain them due to which unusable stores becomes unarranged and messy.

## 5.6 How to Run (Maintenance of temperature)

*☞ Ask the participants about the steps that should be taken for maintenance of temperature and discuss their experiences and invite suggestions*

- a. Inflammable materials should be stored in a separate space to avoid any emergency.
- b. Empty vials and bottles should be stored in a separate space for safe disposable. Exhaust fans should run all the time in this area. Usually in stores, bad smell is caused due to breakage of bottles and spillage of syrups. Further fumes and vapors are produced in different cases; therefore, exhausts fans are the best way to circulate the air in stores.
- c. Fresh air should enter into the store/room at all times. Electricity failure is very common and the cost of electricity is much higher due to which it sometimes becomes difficult to run the exhaust fans round the

\* Refer to the definitions' section and explain the definition at this point

clock or due to human negligence, one may forget to switch on the exhaust fans. In such cases, ventilated stores minimize the risks of accumulation of fumes, vapors, bad smells, humidity and moisture. In case of a stock that needs storage at a specific temperature, air conditioner or other controlled temperature equipment should be used.

- d. Thermometer should be displayed on the wall. A certain temperature is required for storage of medicines that may vary subject to the nature of medicines, which is usually indicated on the packaging and literature of the medicines. Thermometers help in maintaining the required temperature conditions and may indicate the steps to be taken for maintaining the required temperatures.
- e. Both, minimum and maximum temperatures should be recorded at least twice a day. Recording temperature at least twice a day will ensure the safety of medicines. If temperature is not maintained according to the standards, corrective measures should be taken to stabilize it.
- f. Temperature record should be maintained on a separate temperature sheet. This sheet is usually displayed alongside the thermometer for endorsing temperatures. This data will help keep the medicines' efficacy unaffected.

## 5.7 Issuance

*☞ Ask the participants about the steps necessary for issuance and discuss their experiences and invite suggestions*

- a. Previous consumption, based on genuine demand should be the basis of issuing various items. Previous consumption trends can be set on a period or season etc. This trend helps in calculating demands and issuance. If a demand is received that seems exaggerated or unjust, it can be verified and issuance can be made on the basis of previous trends and current circumstances. For this purpose, meeting / contact between supervisor of store and supervisor of demanding department can solve this issue immediately.
- b. The supplies / medicines should be stamped as "government property not for sale" (It should be clearly mentioned in TORs of the supply order). It is a common public complaint that the hospital inventory medicines are being sold in the market. If this monogram is displayed on the packing of every medicine, the pilferage and misuse can be reduced, even eliminated. Instructions in the purchase order / supply order should contain the institution's name and the stamp of "Government property not for sale". This will help in controlling pilferage; if supplier does not mention these on the packing, then it is the duty of the store staff to deface all materials present in the store. If man power is present then every issue should be marked with the name of



facility to whom this stock is issued.

- c. A register should be properly maintained for issuing various items. If immediately after any issuance, an entry is not endorsed in the register, the chances are that it will be forgotten, which will result in shortage of the stock. Therefore, instant entries should be made in register after every issuance.
- d. Whenever an entry is made for issuing of any item, a signature should be made on the register. This practice is helpful when there are two or more persons handling the store and the stock register. The chances of mistakes, pilferage and forgery are avoided.
- e. While issuing items from the store, the following important entries should be made in the register.
  - i. Reference number of demand or indent.
  - ii. To whom the items are issued?
  - iii. How much quantity is issued?
  - iv. What is the balance at the store after this issuance?

If the above noted entries are properly maintained, the scrutiny of records becomes easier, otherwise for verification of each entry, an auditor or official would have to consult the record, which is time consuming and very difficult.

- f. The entries should be verified from the logistics' in-charge. The stores or logistics in-charge verifies every entry after checking the related vouchers. This becomes a double check on errors and responsibility is shared.
- g. Authorized register should be used instead of using hand written register. Almost every organization has their own printed stationary for such purposes. If unauthorized registers are used, the validity of records becomes doubtful. Further, authorized registers should be used for uniformity of the records.
- h. Issues should be made on a proper Issue Receipt Voucher in triplicate (Indent Book). Triplicate voucher system should be used for issuance. This voucher / indent should have the name of the department, quantity previously issued, stock in hand and quantity demanded. The store-keeper will keep full signature with stamp of indenting personnel and one copy of this indent after taking signature on received stock. One copy will be sent to the store officer / executive and a third will remain with the indenter. This indent book should be printed, numbered, and issued by some authority in the health facility. These procedures will help in audit of the store and indenting place (wards outpatient pharmacy, laboratories, radiology department etc.)
- i. Overall accountability of the storage management should be of the store in-charge.
- j. Proper security of the store must be assured.

## 5.8 Indenting

*☞ Ask the participants about the indenting procedures at their relevant facilities and discuss their experiences and invite suggestions*

- a. Proper demand for supplies should be made to the main / bulk store. If the lower stores present exaggerated or unjust demand of items, it would become difficult for them to store and utilize. The items may expire or other factors can affect the efficacy of the medicines. Therefore, proper demand that can be consumed in a specific period should be made. For this purpose, maximum stock level\*, reorder level\* and minimum stock level\* of every item for every store should be set and expiry calendar must be prepared, which should always be present in front of the storekeeper and the store in-charge. For computerized inventory, software can be used to indicate expiry dates of a year, six months, three months and six weeks, so that the store in-charge can take necessary action to liquidate / return to suppliers.
- b. While demanding supplies from the main / bulk store, the following points should properly / fully explained:
  - ◆ Name of the item.
  - ◆ Quantity received in the previous demand.
  - ◆ Date on which the item was received.
  - ◆ Quantity of the item consumed / issued.
  - ◆ Disease pattern, whether it has seasonal variations or migrations.
  - ◆ Amount consumed will be used in case of peripheral level while amount issued can be used in case of district and provincial stores.
  - ◆ Balance of that particular item in hand.
  - ◆ Quantity of item required / demanded through this indent.
  - ◆ If the above mentioned factors are not observed, chances of wrong issuance of items and differences in quantity are expected, which may give rise to over or under stocking, delivery of wrong medicines etc. Therefore, every care should be observed while making a demand.

## 5.9 Reporting

*☞ Ask the participants about their experiences and suggestions about reporting procedures*

- a. Reporting / inventory or LMIS (Logistics Management Information System) is essential for quick examination of how many medicines / commodities are moving and are available / not available through the programme / district / health facility / unit. The items available at the district stores should be circulated to all the health facilities within the district on a monthly basis. Maintenance of effective information system is a prerequisite for a good logistics system. If an effective LMIS is

\* Refer to the definitions' section and explain the definition at this point

not maintained, the situation of overstocking, under stocking, stock outs etc. may arise, which will adversely affect the system. A proper LMIS reflects the factual position of stocks, receipts, issuances, balances, and consumption trends and the base record for generation of demand for the next period.

- b. It should reflect various levels of the programme / system. At the provincial level, various tiers would be the districts and agencies to which the supplies are issued. In case of the hospitals (Tertiary, DHQs), various levels would be different wards to which medicines and other supplies are issued. In case of the peripheral health facilities, medicines are issued to OPDs.
- c. Monthly reports should reflect the number of items received and issued / consumed during the particular month.
- d. Accumulative report should reflect the number of medicines / items received and issued up to date during the current year.
- e. The data should be used for planning, guidance and resource allocation purposes.

*☞ Ask the participants about their experiences and suggestions about management of expired drugs*

## 5.10 Management of Expired Drugs

- a. Store keeper will keep a record of dates of expiry with the help of an expiry calendar\*; he/she will inform the store incharge at least six months prior to the expiry of stock. The store incharge will take necessary action for the disposal of short expiry drugs by informing the prescribers, or circulating the drugs to other health facilities for exchange, where permissible.
- b. Store incharge will ask the supplier for change of a stock nearing its expiry if it is in TORs of the supplier's order.
- c. In case the stocks expire, the store keeper/store incharge will inform the authorities and a committee will be constituted for condemnation of expired stocks. The expired stock will be disposed off through incinerator (preferably) or breakage to avoid any misuse/reuse.

*☞ Invite the participant for questions and suggestions regarding the second session and note down their suggestions and discuss*

*☞ At the end of the session, the facilitator should display the whole movie on wrong and good practices of storage and inventory control.*

\* Refer to the definitions' section and explain the definition at this point

# **ANNEXURE**

# Check lists

## Proper Positioning of Stock

- ◆ Cartons of medicines/supplies must be placed on metallic pallets, 3 feet (L) X 3 feet (W) X 4 inches (H) in size.
- ◆ There should be a minimum space of 12 inches between the stacks and the wall.
- ◆ Stacks should be kept straight. Cartons should be placed in stacks.
- ◆ A space of about 3 feet should be maintained between the stacks.
- ◆ Cartons should be placed right side up so that label is visible and can be read easily. Each and every stock should have bin cards.
- ◆ Bin cards should reflect the following essential information.
  - Name of the item in generic; brand name in brackets with strength.
  - Date when the item was received.
  - Quantity of the stock received.
  - Batch number of stock
  - Minimum stock level
  - Reorder level
  - Maximum stock level
  - Date of manufacture and expiry
  - Date and quantity of items issued out of stock
  - Balance
  - Sign of in-charge
  - All entries regarding receipt and issue should carry initials of the storekeeper and duly authenticated by the in-charge of pharmacy/store on the bin card.
  - The balance shown on the bin card must correspond with the balance in the stock register and the physical balance of the stock.
- ◆ There should be a policy of making up of stock differences between physical stock and theoretical.

## Storage Order of the Stock

- ◆ Medicines should be kept in a separate store.
- ◆ The order of storing various medicines should be in therapeutic or alphabetical order, or based on utilization or as convenient.
- ◆ The medicines should be positioned, based on the principle of FIFO (First in first out) and FEFO (First expiry first out).
- ◆ Insecticides, chemicals and other fluids should be kept in a separate room.
- ◆ Expired materials, un-usable machinery and equipment should be placed in separate rooms.

## Maintenance of Temperature

- ◆ Inflammable materials should be stored in a separate space to avoid any emergency.
- ◆ Exhaust fans should run all the time in this area. Fresh air should enter into the store/room at all times.

- ◆ Thermometer should be displayed on the wall.
- ◆ Both, minimum and maximum temperatures should be recorded at least twice a day.

Temperature record should be maintained on a separate temperature sheet.

## Procedures for Issuance of Drugs

- ◆ Previous consumption, based on genuine demand should be the basis of issuing various items. Previous consumption trends can be set on a period or season etc. This trend helps in calculating demands and issuance.
- ◆ The supplies / medicines should be stamped as "government property not for sale".
- ◆ A register should be properly maintained for issuing various items.
- ◆ Whenever an entry is made for issuing of any item, a signature should be made on the register.
- ◆ While issuing items from the store, the following important entries should be made in the register.
  - Reference number of demand or indent.
  - To whom the items are issued?
  - How much quantity is issued?
  - What is the balance at the store after this issuance?
- ◆ The entries should be verified from the logistics' in-charge.
- ◆ Authorized register should be used instead of using hand written register.
- ◆ Issues should be made on a proper Issue Receipt Voucher in triplicate (Indent Book).
- ◆ Overall accountability of the storage management should be of the store in-charge.

## Indenting Procedures

- ◆ Proper demand for supplies should be made to the main / bulk store.
- ◆ While demanding supplies from the main / bulk store, the following points should properly / fully explained:
  - Name of the item.
  - Quantity received in the previous demand.
  - Date on which the item was received.
  - Quantity of the item consumed / issued.
  - Disease pattern, whether it has seasonal variations or migrations.
    - *Amount consumed will be used in case of peripheral level while amount issued can be used in case of district and provincial stores.*
  - Balance of that particular item in hand.
  - Quantity of item required / demanded through this indent

## Inventory/ Reporting Procedures

- ◆ Reporting / inventory or LMIS (Logistics Management Information System) is essential for quick examination of how many medicines / commodities are moving and are available / not available through the program / district / health facility / unit.
- ◆ It should reflect various levels of the program / system.

- ◆ Monthly reports should reflect the number of items received and issued / consumed during the particular month.
- ◆ Accumulative report should reflect the number of medicines / items received and issued up to date during the current year. The data should be used for planning, guidance and resource allocation purposes.

**BATCH AND EXPIRY CALENDER  
FOR TABLETS/SYRUPS/CREAMS & OINTMENTS/INJECTABLES**

	January	February	March	April	May	June	July	August	September	October	November	December
2003												
2004												
2005												
2006												
2007												
2008												





# DEMAND FORM

District/Agency \_\_\_\_\_

S.No	Name of item	Quantity received from PHQ	Issued	Balance	New demand

# TEMPERATURE LOG

Name of store: \_\_\_\_\_ Month: \_\_\_\_\_

Year: \_\_\_\_\_

Date	Temperature		Signature
	Morning	Evening	

# STOCK REGISTER

Medicines/supplies

Name of article: \_\_\_\_\_ Unit \_\_\_\_\_

1	2	3	4		5	6	7	
Date	Received from/issued to and reference	Quantity in units				Balance	Name and signature	Remarks
		Received	Issued					
			For care	Discarded				

# CHECKLIST TO BE USED WHEN NEW SUPPLY ARRIVES

Name of item \_\_\_\_\_

Date supply received \_\_\_\_\_

Name of supplier \_\_\_\_\_

Supply order number \_\_\_\_\_

Supply order date \_\_\_\_\_

Name of supplier \_\_\_\_\_

Accompanied by invoice/warranty                      Yes                       No

Quantity/number mentioned in the invoice \_\_\_\_\_

Quantity/number received in supply \_\_\_\_\_

Name of manufacturer \_\_\_\_\_

Date of manufacturing \_\_\_\_\_

Batch Number \_\_\_\_\_

Date of expiry \_\_\_\_\_

Number of damages/breakages observed \_\_\_\_\_

## INSPECTION REPORT

S.No	Particulars	Status
1	Date of inspection	
2	Name of item	
3	Name of supplier	
4	Supply order number	
5	Supply order date	
6	Invoice number	
7	Invoice date	
8	Delivery challan number	
9	Delivery challan date	
10	Quantity ordered	
11	Quantity supplied	
12	Name of manufacturer	
13	Batch number	
14	Date of manufacturing	
15	Date of expiry	
16	Consignment received on	

Certified that the said supply conforms with the specified standards communicated to this office and approved sample of the said item.

Signatures of members of Inspection Committee

# Presentation Slides/Transparencies

## Storage Practices

### Session 2

## Session 2 (objectives)

- Positioning of Stock
- Storage order of Stock
- Temperature Control
- Issuance of drug procedures

## Session 2 objectives (Contd..)

- Indenting procedures.
- Inventory/ Reporting Procedures.
- Management of Expired Drugs.

## 4. Positioning of Stock

- Cartons of medicines/supplies must be placed on metallic pallets.
- A minimum space of 12 inches between the stacks and the wall.
- Stacks should be kept straight.
- A space of 3 feet should be maintained between the stacks.
- Cartons should be placed right side up so that label is visible.

## Positioning of Stock (contd..)

Each and every stock should have bin cards. Bin cards should reflect the following essential information

- Name of the item in generic; brand name in brackets with strength.
- Date when the item was received.
- Quantity of the stock received.
- Batch number of stock
- Balance
- Sign of in-charge

## Positioning of Stock (contd..)

- Essential information on bin cards (continued)
  - Minimum stock level
  - Reorder level
  - Maximum stock level
  - Date of manufacture and expiry
  - Date and quantity of items issued out of stock

## Positioning of Stock (contd..)

- All entries on the bin card should be signed the storekeeper and the store in-charge.
- The balance shown on the bin card must correspond with the stock register.
- There should be a policy of making up of stock differences between physical stock and theoretical.

## 5. Storage order of the Stock

- Medicines should be kept in a separate store.
- The order of storing should be in therapeutic or alphabetical order, or based on utilization.
- The medicines should be positioned, based on the principle of FIFO (First in first out) and FEFO (First expiry first out).

## Storage order of the Stock (contd..)

- Insecticides, chemicals and other fluids should be kept in a separate room.
- Expired materials, un-usable machinery and equipment should be placed in separate rooms.

## Temperature Control of Store

- Inflammable materials should be stored separately.
- Exhaust fans should run and fresh air should enter the store at all times.
- Thermometer should be displayed on the wall.
- Both, minimum and maximum temperatures should be recorded at least twice a day.
- Temperature record should be maintained on a separate temperature sheet .

## Issuance

- A genuine demand for issuance should be based on previous consumption.
- The supplies / medicines should be stamped as "government property not for sale".
- A register should be properly maintained for issuing various items.
- Whenever an entry is made for issuing of any item, a signature should be made on the register.

## Issuance (contd..)

- For issuance, the following important entries should be made in the register .
  - Reference number of demand or indent
  - To whom the items are issued?
  - How much quantity is issued?
  - What is the balance after this issuance?



## Issuance (contd..)

- The entries should be verified from the logistics in-charge
- Authorized register should be used
- Issues should be made on a proper Issue Receipt Voucher in triplicate (Indent Book)
- Overall accountability of the store should be of the store in-charge

## Indenting

While demanding supplies , the following points should properly / fully explained:

- Name of the item.
- Quantity received in the previous demand.
- Date on which the item was received.
- Quantity of the item consumed / issued.
- Disease pattern, whether it has seasonal variations or migrations
- Balance of that particular item in hand.
- Quantity of item required / demanded through this indent.

## Inventory / reporting

- Reporting / inventory or LMIS (Logistics Management Information System) is essential for quick examination .
- It should reflect various levels of the programme / system.
- Monthly reports should reflect the number of items received and issued.

## Inventory / reporting (contd..)

- Accumulative report should reflect the number of medicines / items received and issued up to date during the current year.
- The data should be used for planning, guidance and resource allocation purposes.

## Management of Expired Drugs

- Store keeper should keep expiry and batch record.
- He should inform the store incharge about expiry of stock at least six months prior.
- Store incharge will ask for change of stock, if it is in TORs of supplier's order.
- In case of expired stocks the store incharge will inform the authorities.

Thank you!









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