DRUG STORE MANAGEMENT

A drug Store/Pharmacy/Community Pharmacy/chemist's is a retail shop which provides prescription drugs, among other products.

Medical stores management should assist both the flow and reliability of supplies from source to user as economically and reliably as possible, and without significant wastage, loss of quality, or theft.

The primary purpose of a store is to receive, hold, and dispatch stock. This materials management process is implemented through inventory control and warehouse management systems,which may be manual or computer based.

The primary purpose of inventory control is to manage stock and ensure the smooth flow of goods by determining what, how much, and when to order stock.

Warehouse management comprises the physical movement of stock into, through, and out of a medical store warehouse

The goals of medical stores management are to protect stored items from loss, damage, theft, or wastage and to manage the reliable movement of supplies from source to user in the most economical and expeditious way.

STOCK MANAGEMENT

Stock records

Stock records contain information about suppliers, customers, prices, stock receipts, stock issues, stock losses, and stock balances. These data are essential for planning distribution.

A stock record (manual or computerized) must be maintained for each item in the inventory. The stock record documents all transactions relating to an item. It may contain information about reorder level, reorder interval, reorder quantity, lead time, stock on order, and estimated consumption rate.

Stock cards

The stock card is the principle instrument for stock control. A stock card is established for each product (drugs and supplies) and updated at each movement. Stock cards are used to:

- identify all stock movements: in and out;
- determine at any moment the theoretical level of stocks;
- follow–up the consumption of different facilities;
- correctly plan and prepare orders;
- determine losses (differences between theoretical stock and actual stock).

Stock Rotation

When issuing products, it is important to follow the FEFO policy.

- To facilitate FEFO, place products that will expire first in front of products with a later expiry date.

- Write expiry dates on stock cards, so stocks can be sent to facilities at least with a later expiry date.
- Write expiry date(s) on stock cards, so stocks can be sent to facilities at least 6 months before they expire.

Flow of stock and information

Stock, and the information that accompanies it, should flow through the warehouse in an orderly manner. This process has six stages—

1. Receiving: Goods that arrive in the receiving room are quarantined, inspected, and if found to be acceptable, entered into the stock-recording system. Receiving reports are prepared.
2. Storage: Accepted goods are moved to their allocated storage positions in the warehouse, where they are stored in first-in/first-out (FIFO) or first-expiry/first- out (FEFO) order. Records for stocks on hand and on order are adjusted.
3. Allocation of stock: In most medical stores, the manager determines whether to allocate the complete quantities requested when a requisition is received. The decision can be made in collaboration with the requesting facility but generally depends on stock status, a review of facility consumption patterns, and, in some cases, budget status.
4. Order picking: An order-picking list is prepared (this may be the original requisition form rather than a separate list). Workers use this list to identify and collect the allocated items from the warehouse.
5. Order assembly: Individual orders are assembled and checked in the packing area. The are then packed for delivery. Delivery documentation is prepared.
6. Dispatch and delivery: The packed goods are held in designated secure areas pending shipment, then loaded onto the transport and dispatched, accompanied by the necessary documentation, including a packing list recording all items and quantities. Ideally, an invoice showing unit costs of medicines and total value should accompany the shipment. Signed delivery notes are checked when the vehicle returns. If errors or damage have been reported, appropriate action is taken.

Orderly Arrangement of Essential Medicines

Medical stores must have a well laid out system for classifying or organizing medicines and must ensure that all employees know the system being followed.

Some common systems for arranging medicines include:-

a. Alphabetical Order by Generic Name: - Often seen in both large and small facilities. When using this system, the labeling must be changed when the Essential Medicines List is revised or updated.
b. Therapeutic or Pharmacologic Category: - Most useful in small storerooms or dispensaries where the storekeeper is very knowledgeable about pharmacology Dosage Form: - Medicines come in different forms, such as tablets, syrups, injectables and external use products such as ointments and creams. In this system, medicines are categorized according to their dosage forms. Within the area for each form, a fixed, fluid or semi-fluid system is used to store items. Any of the other methods of categorizing can be used to organize the items more precisely.

c. System Level: - Items for each level of the health care system are kept together. This works well in stores at a higher level when storage of kits is required.
d. Frequency of Use: -Frequently used products that move quickly or very often through the store should be placed in the front of the room or closest to the staging area. This system should be used in combination with another system.
e. Random Bin:-Identifies a specific storage space or cell with a code that corresponds to its aisle, shelf, and position on the shelf. This system requires computer automation.
f. Commodity Coding: - Each item has its own article and location code. This system has the greatest flexibility, but it is also the most abstract. Stores staff do not need any technical knowledge of the products to manage this system because the codes contain the information needed for storing products properly, such as temperature requirements, level of security and inflammability. This system works well in computerized inventory systems.

STORAGE

The product manufacturer's storage instructions should be followed to the extent possible. If these instructions cannot be followed, the product must be kept in the most suitable conditions available and used as quickly as possible. The product manufacturer should be consulted before violating recommended storage conditions, to determine how long the product will remain safe and effective under the actual storage conditions.

If no specific storage instructions are given, "normal storage conditions" apply.

Normal storage conditions for medicines have been defined as "storage in dry, well-ventilated

premises at temperatures of +15°C to +25°C, or, depending upon climatic conditions, up to +30°C" (WHO 2003).

Each storage zone should have at least one thermometer, and temperatures should be recorded daily at the hottest time of day.

Storage Policies:

- Follow the manufacturer or shipper's directions when stacking and follow labels for storage conditions.
- Place liquid products on the lower shelves or at bottom of stacks.
- Store products that require cold storage in appropriate temperature controlled zones.
- Store high security / high value products in appropriate security zones.
- Separate damaged or expired products from the usable stock without delay and dispose of using established disposal procedures.
- Always store all commodities in a manner that facilitates FEFO policy for stock management.
- Arrange cartons as arrows point up and ensure that identification labels, expiry dates and manufacturing dates are visible. If this is not possible, write the product name and expiry date clearly on the visible side.
- Following FEFO minimizes wastage from product expiry.

<u>Consider the following when designing a storage facility:</u>

a. Capacity/space: Storage facilities must have the capacity for both storage and handling. The required space will depend on– quantity and time of receiving supplies, space required for each item, length of stay, need of cold storage (refrigerator or freezer).
b. Cold storage: In larger facilities it is more efficient to use cold rooms while in smaller ones freezers or refrigerators can be used. Ideally, larger facilities should have one room with a negative temperature for frozen products (-20°C) and another room with a positive but cold temperature (2°-8°C) for products requiring refrigeration.
c. Ventilation: The location and design should ensure maximum air circulation to avoid concentrations of fumes or gases. Exhaust fan should be used. Windows should be high and wide. There should be provision for proper temperature and humidity control.
d. Roof: Proper drainage of water should be there from both roof and floor. Roof should be extended over the windows to give extra protection from rain and direct sunlight. Double ceiling should be installed to provide insulation and ensure that supplies are kept cool.
e. Walls and floor: These should be permanent and smooth for easy cleaning. Walls preferably should be constructed of brick or concrete blocks. Floors should withstand the frequent movement of heavy products and equipment.
f. Doors: They should be wide enough to allow for the free and easy movement of supplies and strong enough to provide adequate security.
g. Lighting: Provision of natural light should be there while florescent or incandescent bulb lighting should be avoided as these emit ultraviolet rays and heat respectively, which have a negative effect on certain products.
h. Cupboards: To keep specific products free from dust or light, cupboards should be there.
i. Shelves: Adjustable shelves and racks should be used in line with a passageway not less than 90 cm wide. Also place the shelves 90 cm from the walls of the storeroom to ensure they are accessible from both sides. Avoid placing shelves only around the edge of the room.

Storage conditions

- Cold storage: $2\text{-}8^0$ C
- Cool temp: $8\text{-}25^0$C
- Room temp RT-temp. Temperature prevailing in working area.
- Warm: $30\text{-}40^0$C
- Excessive Heat: Above 40^0 C

Cold storage of Drugs & Vaccines

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

1. Store frozen: Some products, such as certain vaccines, need to be transported within a cold chain and stored at -20°C. Frozen storage is normally for longer-term storage at higher-level facilities.
2. Do not freeze or do not store over 8°C: To be kept in refrigerator (from +2°C to +8°C but not in the freezer chamber).
3. Keep Cold: Storage at any temperature NOT exceeding 8°C and usually between 2°C and 8°C but must not be frozen. These are usually kept in the first and second part of the

refrigerator (never the freezer). This temperature is appropriate for storing vaccines for a short period of time. A refrigerator is a cold place in which the temperature is maintained thermostatically between 2°C and 8°C.\

4. Keep Cool: Store at 8°- 25°C. An article for storage in a cool place is directed, may, alternatively be stored in a refrigerator (at temperature between 2°C and 8°C), unless otherwise specified in the individual monograph. Store at room temperature or do not store over 30°C: store at 15°C - 30°C.
5. Storage at ambient temperature: Store at the surrounding temperature. This term is not widely used due to significant variation in ambient temperatures. It means "room temperature" or normal storage conditions, which means storage in a dry, clean, well-ventilated area at room temperatures 15° to 25°C or up to 30°C, depending on climatic conditions.
6. Protect from moisture: To be stored in normal humidity at room temperature (Relative Humidity less than 60%).
7. Protect from light: To be stored in a light-resistant cupboard/drawer; to be provided by the manufacturer in a light- resistant container

Storage of vaccines:

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