

Practical Pharmacy For Developing Countries

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NOTE TO OUR READERS: The goal of Practical Pharmacy is to provide accessible, objective and accurate information on medicines issues for front-line health workers who may not have any pharmaceutical training. It is essential that medicines needs for a given community are well estimated. Good stock control is vital to keep costs down, to ensure good patient care and to prevent mistakes or fraud taking place. In this issue we focus on Stock Control and highlight good stock control management practices of medicines.

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We welcome your feedback to know if we have been successful in achieving our goal with this issue. Contact us at practical_pharmacy@gmail.com



Stock Control

Good stock control practices require an adequate knowledge of the medicines requirements for a given locality.

It is essential that medicines needs for a given community are well estimated. When estimating medicines requirements the main objective is to ensure that medicines are available to treat the expected case load of patients at the facilities concerned.

The following practical questions must be answered:

1. What is the scope of quantification

a) What is the geographical area to be covered (regional, provincial and facility level)

b) What health facilities and services are to be included?

Credit: HAI Africa

Workers at a pharmacy store a shipment of medical supplies.

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Estimating your community's medicine needs



Credit: HAI Africa

Good stock control requires good knowledge of what medicines are needed in your community.

Continued from page 1

c) What medicines are to be included? Quantity estimates are generally made specifically for each type of health facility or service

2. On what administrative level are estimates to be made (health center, district hospital, regional/provincial hospital etc).

3. Are there any special considerations to be taken into account?

a) Are the estimates intended to improve the cost-effectiveness of prescribing or are they to be based primarily on existing prescribing patterns?

b) Are the facilities and services whose needs are being quantified new or existing ones, and are their needs stable, or expanding or contracting?

c) Are the estimates subject to a predetermined budget, or are they to provide the basis for drawing up a budget or for preparing a case for donor support?

There are two main recommended methods of estimating drug needs

Morbidity method:

For this method to be used the following conditions apply:

a) Available consumption data are incomplete or

unreliable

b) Prescribing patterns are not cost effective, and a systematic improvement is required.

c) The budget is unlikely to be sufficient to meet estimated requirements

d) The health facilities or services concerned are new, or expanding or contracting rapidly, so that past consumption data are not useful for guiding future drug requirements.

Consumption method:

This works properly when:

a) Accurate consumption data are available or reasonably easily obtainable

b) A facility is "standard" which has good prescribing practices and predictable morbidity patterns.

c) Medicines supplies at the facilities have been adequate without frequent stock-outs.

d) Stock-management is reasonably good and wastage through expiry, damage and theft are not excessive

Stock control requires effective guidelines which contain standard operating procedures (SOPs) for stock ordering, receiving, storage, dispensing and disposal. These systems can serve as guidelines for effective management of stock.

Standard operating practice for stock ordering

A good stock ordering system works towards preventing the pharmacy from being over or under stocked. An overstocked pharmacy has a risk of medicines expiring, high inventory costs and limited storage space. An understocked pharmacy¹ cannot fulfill the needs of the community.

Stock ordering relates to stock availability and stock demand. These two factors will vary

depending on location and population. Good stock management results in efficient use of resources (manpower, funds).

Regular monitoring and evaluation of stock levels ensures good stock management. These SOPs should be adapted to each organization's needs.

¹Clinic, public health facility, medicines outlet, drug store

SOP:

Task for ordering personnel for calculating stock order	Completed
Name:	Date / Time
Identify minimum levels of stock for each item (Review minimum when required)	
Identify items which are below minimum levels	
Check if any items currently cheaper? Worthwhile to order in bulk?	
Check if any items currently more expensive? Able to wait till next order?	
Identify delivery rates (daily/weekly/monthly)?	
Calculate quantities needed according to above	
Review system annually	
Notes:	

Explanation:

This calculating stock SOP is used for identifying order amounts for stock ordering.

Name: The member of staff who will do this should be identified and given full responsibility.

Date/Time: For good records management, note the date and time of removing and replenishing medicines. This should be filled in so that there is a record of when the system has been reviewed and to see what has been trailed and evaluate whether it was effective.

Note: Space for feedback should be provided in case it may be needed for future revisions.

Identifying minimum levels:

This involves understanding supply and demand. Unfortunately the best system to determine minimum level numbers is trailing and evaluation.



Issues to consider when ordering stock

A. Stock availability:

- Time needed to order stock
- Time needed for delivery
- Reliability of suppliers
- Prices of products from different suppliers
- Ability of suppliers to offer goods on credit

B. Stock demand:

- Patients' needs (disease profile of patients)
- Medicines that are fast-moving
- Diseases that are seasonal
- Medicines that take long to be replenished

- Emergencies and epidemics such as cholera, rotavirus


C. Stock projections

- How much medicine to order, forecasting on how long the drugs would last in stock
- Consider buffer stock
- Consider how long it would take for the drug to be delivered

The answers to these questions influence whether the minimum stock level of each medicine should be higher or lower.

SOP:

Tasks for ordering personnel	Completed
Name: _____ Date / Time: _____	
Write name and address of the pharmacy	
Assign stock and invoice number	
Write Date and Time	
Write suppliers' name and address	
List Drug brand, Drug Strength, Drug Form, Pack size, Quantity, Cost per item, Total cost according to calculated stock order	
1. List items which can wait until next order and give reasons why (i.e. Too expensive for now?) 2. List rarely ordered items which need to be added to this order? (i.e. Requested by a patient?)	
Check the list for correctness	
Send order with a confirmation form (<i>Very important but often forgotten!!!</i>)	
<i>Follow up the stock order regularly</i>	
Comments:	
Confirm order has been received	
Review ordering system annually	



Note:
It is important to have someone countercheck the order to avoid mistakes being made.

Explanations:

Ideally stock ordering should be done or supervised by one person, who knows who the suppliers are and the general patient base. Invoice numbers are used to track down specific stock orders just in case they are required for re-examining.

Systems involved with stock demand involve: minimum stock level and "just in time" stock. Minimum stock level means ordering stock when stock falls below a certain value. Just in time stock involves ordering stock only when it is in demand. This is for drugs which are not commonly used.

Receiving stocks



Having a system for receiving stock ensures the quality of purchase. When goods are delivered, the receiver should make several checks.

Steps to be followed by personnel when receiving medicines:

- Check package is for this pharmacy before delivery person leaves
- Place package at a designated location until ready to be unpacked
- Check receiving form is the same as order form
- Unpack drugs at a designated location
- Check items are the same as the receiving invoice
- Check for expired items
- Check for damaged items
- Send contents from receiving section to storage
- Enter items onto stock cards

- File receiving invoice
- Review system periodically

Tasks for receiving personnel if item/s are wrong, expired, damaged or missing

- Note the date/time and what the problem is
- Set aside the wrong, expired or damaged items at a designated location
- Notify supplier of the errors and discuss how to send back the items
- Notify supplier to send missing items on next delivery
- Send back wrong, expired or damaged items to supplier
- Confirm with supplier that items have been sent
- File the documentation along with the receiving invoice

Stock management practices

All good health practitioners will try to reduce the amount of stock held while endeavoring not to run out of stock of items or ending up with expired medicines. This may be achieved by monitoring the stock levels and the range of items carried.

The turnover should be calculated and the minimum target set and stock holdings reviewed on a regular basis with consideration being given to eliminating small moving items.

If cards are used, a record of each item should have:

- Name of the item
- Description
- Pack size

- Batch number
- Sources of supply
- Quantity ordered
- Date and quantity received
-

In addition, for ideal stock control, the cards will include:

- Details of issues
- Cumulative stock balance

In Conclusion: Effective use of stock ordering helps to save space and reduce storage costs in health establishments while meeting the demands of patients. These systems need to be trailed, evaluated, improved and trailed again for best results.

Storage of medicines

The storage of medicines in a pharmacy is extremely important. However, this area is often overlooked when busy with other duties. Good storage practices for pharmaceuticals are essential for access. In practicing good storage the essential ingredients required are:

A. Personnel

In each pharmacy there should be:

- Adequate trained personnel.
- All members of staff should observe high levels of personal hygiene. Personnel employed in storage areas should wear suitable protective or appropriate working garments

B. Documentation

- Records should be available which document all activities in the storage areas including handling of expired stock.
- Records should be kept for each delivery
- Labelling and containers
- Some formulations such as cough syrups and tablets are brought in big containers and need to be repacked and labeled for specific patients. When repacked,

they should have labels that include important information such as Name of Patient, directions on how to take the medicines, expiry date, any other additional information.

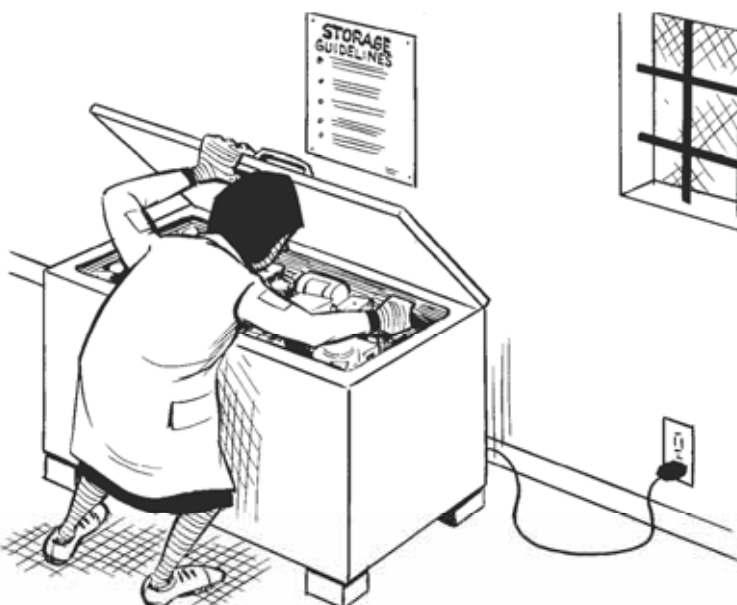
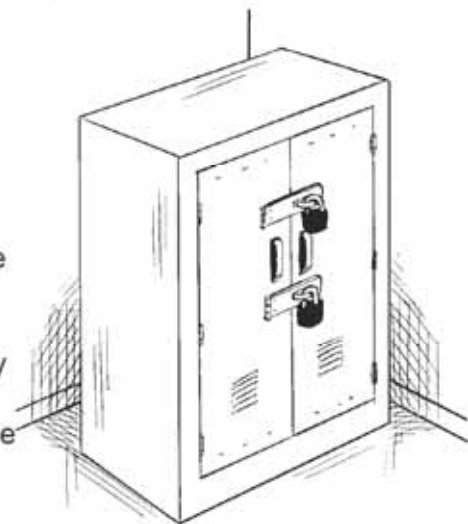
C. Security

Precautions must be taken to prevent unauthorised person from entering storage areas. Security can be improved by:

- Storing your excess medicines in a separate room or cupboard, enforced by a lock;
- Having a duty roster with a responsible staff member assigned to holding the storeroom key and tending to movement of the excess medicines.

D. Storage areas

- Storage areas should be sufficient capacity to allow the orderly storage of medicines.
- Should be clean and dry and free from accumulated wastes and germs. Do not store medicines directly on the floor.
- Broken or damaged items should be withdrawn from usable stock and separated.
- Storage areas should provide adequate lighting to enable all operations to be carried out accurately and safely
- Proper ventilation is crucial . This can be provided by a air conditioner, a fan or a small window
- Medicines that require low temperatures such as vaccines should be stored exclusively in a refrigerator or ice cold containers which are often provided by ministries of health.



Storage guidelines for medicines

- Temperature of the storage area should be regularly monitored to ensure compliance with storage requirements.
- Storeroom should be clean and free of any spillage or contaminants. Pests might be attracted to these.



Keep it neat: keeping medicines and other supplies neat and orderly will help staff run the pharmacy and serve the patients better.

Classifying medicines: Medicines should be easily located by any staff member. The following are recommended methods of organizing medicines on the shelves.

- Store similar items on the shelves
- Medicines with the same route of administration (injectable, tablet, external) and form of preparation (tablets and syrups) should be stored on the same shelf.
- If there are three or more shelves in the pharmacy organize medicines in the following way:
 1. Top shelves: Tablets, capsules, ORS
 2. Middle shelves: Liquids, including injectables and ointments. Do not put products for internal and external use next to each other

3. Bottom shelves: Supplies such as surgical items, laboratory supplies, condoms etc

- Use generic names of each medicine in the pharmacy
- Arrange and label the medicines on the shelves: within each group arrange the supplies in alphabetical order by generic name.

Medicine expiry dates

As you will receive stock at various times, medicines will commonly have different expiry dates. Medicines with later expiry dates should be placed behind current stock so that when needed, the medicines with earlier expiry dates will be taken out first.

An easy abbreviation to remember this is:
FEFO – First Expired, First Out

If the product does not have an expiry date, medicines that are received earlier should be placed in front and those received later should be placed behind.

An easy way abbreviation to remember this is:
FIFO – First In, First Out.

New supplies should be taken out of their boxes and stored away as soon as possible to avoid misclassification and miscounting of drugs. Expired drugs should be removed immediately and according to proper procedures of disposal. This is to avoid the use of expired drugs.



Credit: http://www.nps.org.au/_data/assets/image/0007/70756/autumn09p4_web.gif

Stock cards



Credit: HAI Africa

A worker goes through recently-received stock at a Kenya pharmacy.

Keeping records serves not only as the basis for information needed when ordering new stocks of medicines and other supplies but also as the evidence of transaction. Keeping records on stock cards can save time, identify cases of theft or misuse.

Stock cards should be filled in as soon as goods are received or when medicines are replenished in the dispensary. Each product should have a stock card each.

- Make a stock card for each item in your store
 1. Write down all the information concerning the item including name, form, strength, and pack size
 2. Write down the supply and stock information of each item at the pharmacy this includes price, minimum and maximum stock levels, regular pack size and expiry date
- Attach the card to the front of the shelf near the label of the item or place it with the containers of the item on the shelf
- Record on the stock card using a pen every time you receive or move an item
- Record the following information on the items' stock card whenever receiving or updating the new balance in stock:
 1. Date of receipt
 2. Where the item was received from
 3. Number of units received
 4. Requisition number of the order, expiry date and batch number (in the remarks column)
- Write down when an item is issued out of the store and the new balance in stock. This includes:
 1. Date of issue
 2. Where the item was issued to
 3. Quantity issued in units. Subtract the quantity issued from the previous balance in stock and record the new balance in stock.
- Write down any important information about the movement of an item in the remarks column.
- Keep an accurate running tally of the number in the balance in stock column and count your stock at regular intervals, such as once a month.
 1. Review the information on the top of the stock card
 2. Make a physical count of an item
 3. Write down the physical count number in the balance in stock column
- Discrepancy and investigation
- If the physical count and the previous balance are not the same, write "discrepancy" and note how many are missing or excess, and investigate.
- Replace a completed stock card with a new one
- Write down the words "**BALANCE BROUGHT FORWARD**" in the first line of the new stock card. Keep completed stock cards for two to five years, or keep them for as long as instructed by your supervisor or district coordinator.

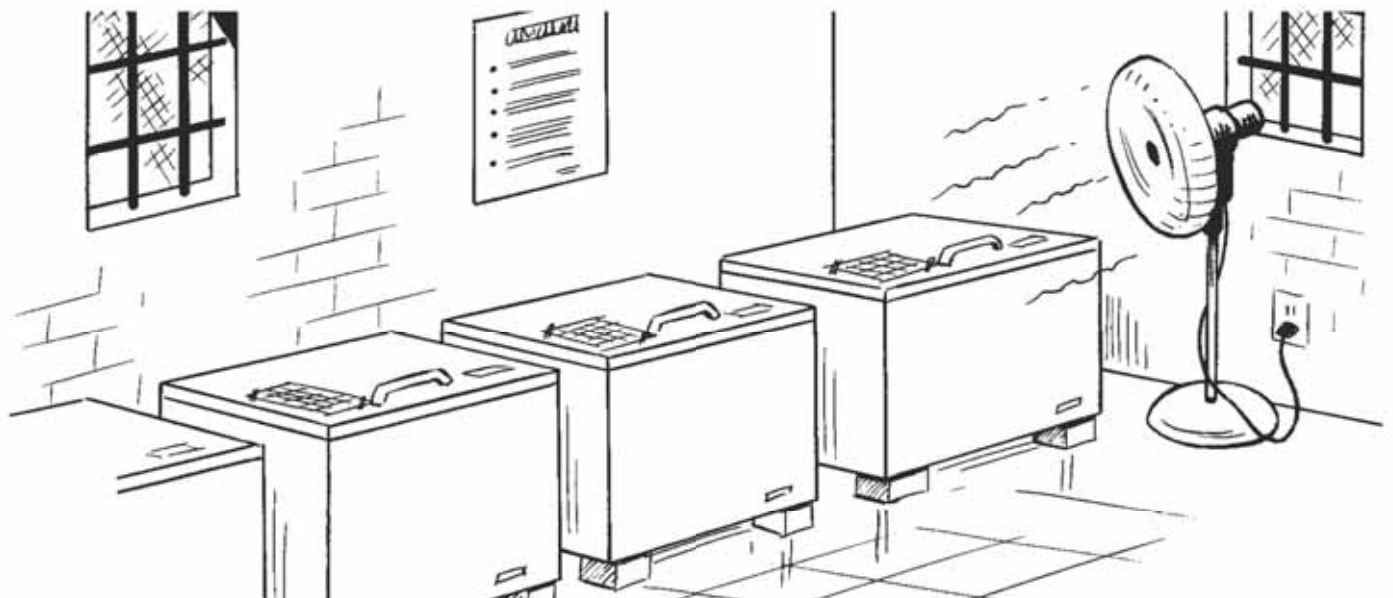
Checklist for your storage areas

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Checklist of storage areas

Do you have a separate storage space or room?	
Have you assigned personnel to maintain the storeroom?	
Is the storeroom well ventilated?	
Are your medicines free from exposure to sunlight?	
Is the storeroom moisture free?	
Is the storeroom clean and free from spillages?	
Are your medicines classified properly?	
Are your medicines arranged in FEFO or FIFO?	
Do you have stock cards for every medicine?	
Are your stock cards maintained regularly and checked with your physical stock?	



Disposal standard operating procedures

Poor quality or damaged medicines and related supplies are as risky as expired ones. Expired, damaged or unwanted pharmaceuticals should be disposed of or returned to the supplier if possible.

- Store them separate to regular stock in a secure container labeled "WARNING: DO NOT USE – ITEMS TO BE DESTROYED"
- Disposal should be done with more than one person present
- Choose method most suitable to particular drug and dosage form
- Record the following information on a dedicated record card:
 1. Date and location of disposal
 2. Disposal method
 3. List of items: generic name, dose, form and amount
 4. Reason(s) for disposal
 5. Estimated value of items
 6. Name and signature of person disposing and a witness



Tasks for disposing of expired, damaged or unwanted pharmaceutical products	Completed
Date:	
Location:	
Generic name Dose Drug Form Pack size Quantity	
Cost per item Total cost	
Reasons for disposal	
Name & signature of person disposing	
Name & signature of witness	
Notes:	

DISPOSAL METHODS		
Category	Disposal Methods	Comments
Solids (e.g. Tablets) Semi-solids (e.g. Creams) Powders (e.g. ORS)	Landfill Waste encapsulation Incineration	
Liquids	Sewer	Antineoplastics not to sewer
Anti-infective	Waste encapsulation Incineration	Liquid antibiotics may be diluted with water, left to stand for several weeks and discharged to sewer
Antineoplastics	Waste encapsulation Incineration	Not to sewer
Controlled drugs	Waste encapsulation Incineration	Not to landfill unless encapsulated
Aerosol Canisters	Waste encapsulation	Not to be burnt. May explode
Disinfectants	Sewer or fast flowing watercourse	Not to sewer unless diluted
PVC plastics	Landfill	Not for burning in open canisters
Paper and Cardboard	Recycle, burn, landfill	

From: Managing Drug Supply for Health Institutions

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